

# MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL  
RAILROAD AND FINANCIAL NEWSPAPER.

## EARNINGS OF THE RAILROADS.

In a review of the earnings of the railroads of the country during the first half of the year, The Commercial and Financial Chronicle of New York presents a mass of interesting statistics, from which is derived the following table, showing the number of roads by sections and the increase in their net earnings in the first six months of this year over the first six months of last year:

Groups.	Increase in net earnings.
10 Anthracite .....	\$8,906,676
14 Trunk Lines .....	4,068,384
28 Southern .....	2,918,688
37 Middle Western .....	1,905,554
4 North Pacific .....	1,288,547
26 Middle States .....	415,777
13 Northwestern .....	370,025
6 New England .....	95,832
21 Southwestern and South Pacific .....	202,253*

159 Total.....\$19,767,230  
\*Decrease.

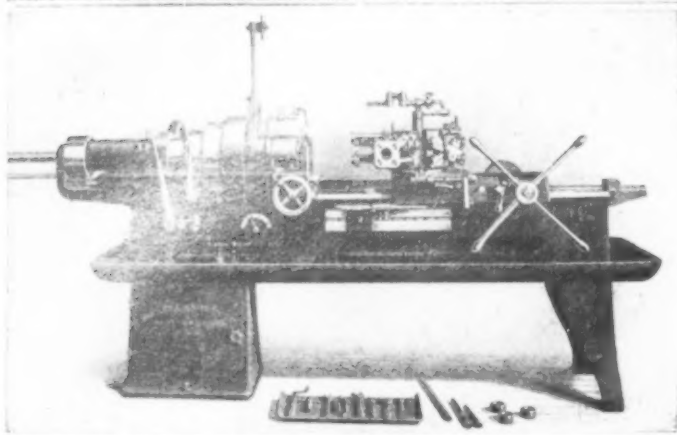
The increase in gross earnings of these roads, representing 145,418 mileage, was \$90,232,528.

THE FULL TABLE OF CONTENTS WILL BE FOUND ON PAGE 130.

VOL. XLIV.  
No. 1.

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Baltimore, September 3, 1903.



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### American National Bank Record

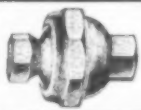
No 1—for use when newly organized; No 2—for conversion of state banks into national.

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U. S. Lock Seal with Two Keys.

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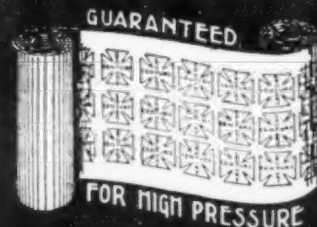
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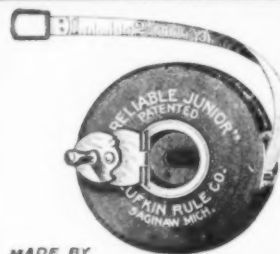
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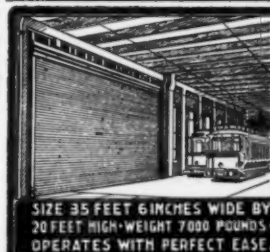
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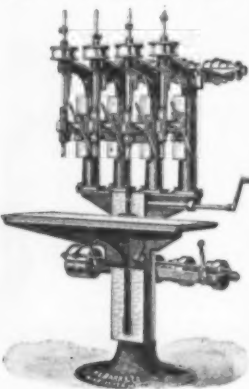
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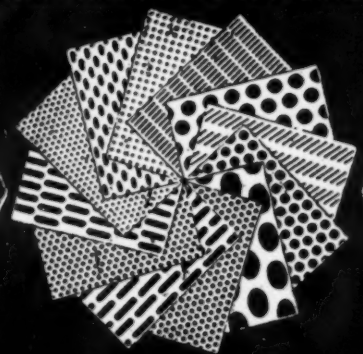
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Florida Electric Co., Jacksonville, Fla.

Electrical Material Co., Baltimore, Md.

General Electric Co., Schenectady, N. Y.

Guarantee Electric Co., Chicago, Ill.

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Kentucky Electric Co., Owensboro, Ky.

Northern Electrical Mfg. Co., Madison, Wis.

Piedmont Electric Co., Asheville, N. C.

Ridgway Dynamo &amp; Engine Co., Ridgway, Pa.

Standard Electric Co., Norfolk, Va.

Triumph Electric Co., Cincinnati, O.

Westinghouse Elec. &amp; Mfg. Co., Pittsburgh, Pa.

Western Electrical Supply Co., St. Louis, Mo.

## Educational Institutions.

University School for Boys, Baltimore, Md.

## Ejectors.

Ohio Injector Co., Wadsworth, O.

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Alexander, Jr., Co., S. B., Charlotte, N. C.

Barr &amp; Elam, Greensboro, N. C.

Electrical Material Co., Baltimore, Md.

Ewing-Merkle Electric Co., St. Louis, Mo.

Harvey, W. H., Memphis, Tenn.

MacAfee, John Blair, Philadelphia, Pa.

McWilliams, Jos., &amp; Co., Louisville, Ky.

Northern Elec. Mfg. Co., Madison, Wis.

Scott, James B., Baltimore, Md.

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Upton, W. B., Co., Washington, D. C.

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Standard Electric Co., Norfolk, Va.

Western Electrical Supply Co., St. Louis, Mo.

Westinghouse Elec. &amp; Mfg. Co., Pittsburgh, Pa.

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General Electric Co., Schenectady, N. Y.

N. J. Foundry &amp; Machine Co., New York, N. Y.

New York &amp; Ohio Co., Warren, O.

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Piedmont Electric Co., Asheville, N. C.

Ridgway Dynamo &amp; Engine Co., Ridgway, Pa.

Standard Electric Co., Norfolk, Va.

Tompkins, D. A., Co., Charlotte, N. C.

Triumph Electric Co., Cincinnati, O.

Upton, W. B., Co., Washington, D. C.

Western Electrical Supply Co., St. Louis, Mo.

Westinghouse Elec. &amp; Mfg. Co., Pittsburgh, Pa.

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General Electric Co., Schenectady, N. Y.

Kentucky Electric Co., Owensboro, Ky.

Standard Electric Co., Norfolk, Va.

Western Electrical Supply Co., St. Louis, Mo.

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Electric Supply Co., Savannah, Ga.

Ewing-Merkle Electric Co., St. Louis, Mo.

Florida Electric Co., Jacksonville, Fla.

General Electric Co., Schenectady, N. Y.

Guarantee Electric Co., Chicago, Ill.

Kentucky Electric Co., Owensboro, Ky.

## New York &amp; Ohio Co., Warren, O.

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Piedmont Electric Co., Asheville, N. C.

Standard Electric Co., Norfolk, Va.

Sturtevant Co., B. F., Boston, Mass.

Triumph Electric Co., Cincinnati, O.

Western Electrical Supply Co., St. Louis, Mo.

Westinghouse Elec. &amp; Mfg. Co., Pittsburgh, Pa.

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Baldwin Locomotive Works, Philadelphia, Pa.

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Spencer &amp; Hall, Baltimore, Md.

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American Machine Co., Louisville, Ky.

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Bates, James, Sons, Baltimore, Md.

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Fairmount Machine Co., Philadelphia, Pa.

Faunt Le Roy &amp; Co., Baltimore, Md.

Florida Electric Co., Jacksonville, Fla.

Haven Elevator Co., Cincinnati, O.

Kinkade &amp; Liggett, Columbus, O.

Link-Belt Engineering Co., Philadelphia, Pa.

Louisville Elevator Co., Louisville, Ky.

Maryland Foundry and Machine Co., Baltimore, Md.

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Park Mfg. Co., Charlotte, N. C.

Plunger Elevator Co., Worcester, Mass.

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Westbrooks, J. B., Fry, &amp; Mich. Co., Danville, Va.

Emery.

Carborundum Co., The, Niagara Falls, N. Y.

Emery Wheels. (See Grinding and Polishing Machinery.)

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Brennan, P. C., New York, N. Y.

Collier &amp; Brown, Atlanta, Ga.

Crocker-Wheeler Co., Ampere, N. J.

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Florida Electric Co., Jacksonville, Fla.

Frank &amp; Hazen, Baltimore, Md.

Force, John P., Columbus, Ohio.

Gilbreth, Frank B., Boston, Mass.

Harvey, W. H., Memphis, Tenn.

Hays, John W., Petersburg, Va.

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Spilth &amp; Co., F. L., New York, N. Y.

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Upton, W. B., Co., Washington, D. C.

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Ball &amp; Wood Co., New York, N. Y.

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Mocklenburg Iron Works, Charleston, S. C.

Phoenix Iron Works Co., Meadville, Pa.

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Southwark Foundry &amp; Machine Co., Philadelphia, Pa.

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Valley Iron Works, Williamsport, Pa.

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Elyria Engine Co., Elyria, O.

Fosteria Foundry &amp; Machine Co., Cleveland, O.

Gibbs, W. H., &amp; Co., Columbia, S. C.

Price, S. M., Machinery Co., Norfolk, Va.

Otto Gas Engine Works, Philadelphia, Pa.

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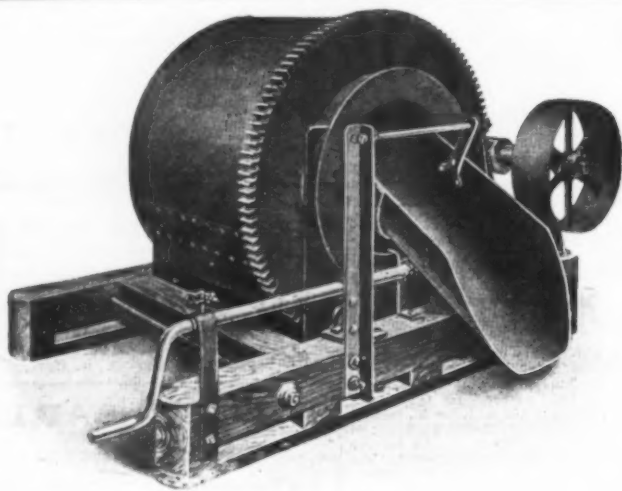
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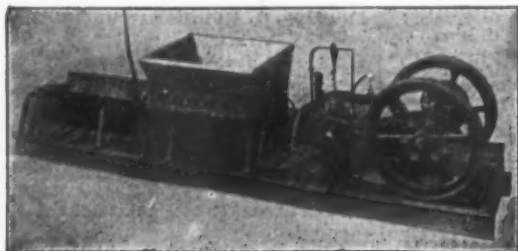
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Jeffrey Mfg. Co., The, Columbus, O.

Link-Belt Engineering Co., Philadelphia, Pa.

Lidgerwood Mfg. Co., New York, N. Y.

Males Co., The, Cincinnati, O.

Price, S. M., Machinery Co., Norfolk, Va.

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Sullivan Machinery Co., Chicago, Ill.

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**Hydrants.**

Glamorgan Pipe &amp; Foundry Co., Lynchburg, Va.

Ludlow Valve Mfg. Co., Troy, N. Y.

Wood, R. D., &amp; Co., Philadelphia, Pa.

**Hydraulic Machinery.**

American, Chicago, Ill.

Watson-Stillman Co., New York, N. Y.

Wood, R. D., &amp; Co., Philadelphia, Pa.

**Hydraulic Rams.**

Niagara Hydraulic Engine Co., Chester, Pa.

**Ice-Making Machinery & Supplies.**

Arling Mch. Co., Canton, Ohio.

Barber Mfg. Co., A. H., Chicago, Ill.

Brown-Cochran Co., Lorain, O.

Frick Co., Waynesboro, Pa.

Healy Ice Machine Co., Chicago, Ill.

McWilliams, Joe, &amp; Co., Louisville, Ky.

Remington Machine Co., Wilmington, Del.

Stillwell-Bierce &amp; Smith-Valle Co., Dayton, O.

United Iron Works Co., Springfield, Mo.

Viller Mfg. Co., Milwaukee, Wis.

Wolf Co., The Fred. W., Chicago, Ill.

York Mfg. Co., York, Pa.

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Delaware Corporation Co., Wilmington, Del.

Delaware Trust Co., Wilmington, Del.

District of Columbia Charter Co., Washington, D. C.

**Indicators. (Steam Engines.)**

Amer. Sim. Gauge &amp; Valve Mfg. Co., Jam. Plain, Mass.

Crosby Steam Gauge &amp; Valve Co., Boston, Mass.

Scranton Steam Pump Co., Scranton, Pa.

**Industrial Opportunities.**

Athens Chamber of Commerce, Athens, Ga.

Brinkley Business Men's League, Brinkley, Ark.

Fort Worth Board of Trade, Fort Worth, Tex.

Lynchburg Traction &amp; Light Co., Lynchburg, Va.

Latourche Progressive Union, Thibodaux, La.

Old Dominion Land Co., Newport News, Va.

Rayol, J. C. W. Lynde, Secretary Progressive Union.

Richards, M. V., L. &amp; T. Agent, Washington, D. C.

Southern Pacific Houston, Tex.

Seaboard Air Line, Portsmouth, Va.

Sutherland, Howard, Land Agent, Elkins, W. Va.

**Industrial Railways.**

Hunt Co., G. W., West New Brighton, N. Y.

Kessel, Arthur, New York City.

**Injectors.**

Jenkins Bros., New York, N. Y.

Lunkenheimer Co., Cincinnati, O.

Ohio Injector Co., Wadsworth, O.

Penberthy Injector Co., Detroit, Mich.

Schofield, J. S., Sons, Co., Macon, Ga.

Simmons, John, Co., New York, N. Y.

**Insulated Wire.**

Electrical Material Co., Baltimore, Md.

Hazard Manufacturing Co., Wilkes Barre, Pa.

**Insulators. (Glass.)**

Electrical Material Co., Baltimore, Md.

**Insulator Pins.**

Electrical Material Co., Baltimore, Md.

Houston &amp; Liggett, Lewisburg, Tenn.

**Insulator Pin Machinery.**

Chattanooga Machinery Co., Chattanooga, Tenn.

**Insurance.**

Hartford Steam Boiler Inspection &amp; Insurance Co., Hartford, Conn.

Maryland Casualty Co., Baltimore, Md.

**Iron.**

Alabama Consol. Coal &amp; Iron Co., Birmingham, Ala.

American Sheet Steel Co., New York, N. Y.

Bourne-Fuller Co., Cleveland, O.

Old Dominion Iron &amp; Nail Works Co., Richmond, Va.

**Iron Brokers.**

Armstrong, R. S. &amp; Bro., Atlanta, Ga.

Ox, Jr., Justice, &amp; Co., Inc., Philadelphia, Pa.

Males Co., Cincinnati, O.

**Jacks. (Lifting, Track and Oil Well.)**

Watson-Stillman Co., New York, N. Y.

**Kettles. (Steam Jacket.)**

Bedger, E. B., &amp; Sons Co., Boston, Mass.

Petroleum Iron Works Co., Washington, Pa.

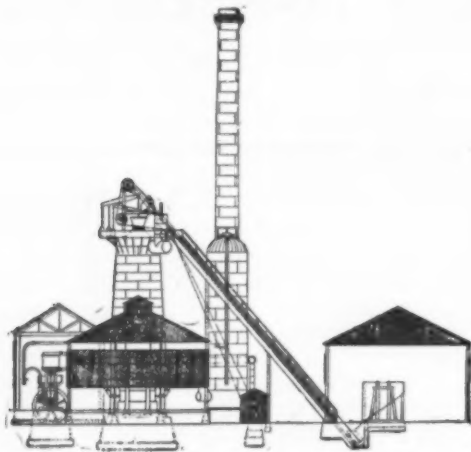
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## Classified Index of Articles Advertised

For ALPHABETICAL INDEX See Page 18

**Knitting Machinery.**  
Camphell & Glue Machine Co., Cohoes, N. Y.  
Mayo Knit. Mch. & Needle Co., Franklin Falls, N. H.  
McMichael & Wildman Mfg. Co., Harrisburg, Pa.  
Nye & Treddick Co., Philadelphia, Pa.  
Ruth Auto. Knitting Machine Co., York, Pa.  
Scott & Williams, Philadelphia, Pa.

**Lamps.** (Are and Incandescent.)  
Alexander, Jr., Co., S. B. Charlotte, N. C.  
Electrical Material Co., Baltimore, Md.  
Electric Supply Co., Savannah, Ga.  
General Electric Co., Schenectady, N. Y.  
Kentucky Electrical Co., Owensboro, Ky.  
New York & Ohio Co., Warren, O.  
Piedmont Electric Co., Asheville, N. C.  
Shelby Electric Co., Shelby, O.  
Standard Electric Co., Norfolk, Va.  
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.  
**Lamp Adjuster.** (Incandescent.)  
Incandescent Elec. Lgt. Manipulator Co., Boston, Mass.  
**Lamp Replacer.** (Incandescent.)  
Incandescent Elec. Lgt. Manipulator Co., Boston, Mass.  
**Lamp Shades & Guards.** (Incandescent.)  
Incandescent Elec. Lgt. Manipulator Co., Boston, Mass.

**Launder.**  
Abbott, F. C. & Co., Charlotte, N. C.  
Brobston, Feudig & Co., Brunswick, Ga.  
Clark, Chas. E., Augusta, Ga.  
Martin & Bro., Augusta, Ga.  
Richards, M. V., Land & Industrial Art., Wash., D. C.  
Sutherland, Howard, Land Agent, Elkins, W. Va.  
Southern Pacific, Houston, Tex.  
Watson, R. E., Atlanta, Ga.  
Winegar, O. H., St. Louis, Mo.

**Lathes.** (Engine.)  
Baird Mch. Co., Pittsburg, Pa.  
Barnes, W. F. & J., Co., Rockford, Ill.  
Gibbs, W. H. & Co., Columbia, S. C.  
Robinson, W. C. & Son, Co., Baltimore, Md.  
McCabe, J. J., New York, N. Y.  
Price, S. M., Machinery Co., Norfolk, Va.  
Savannah Loco. Works & Supply Co., Savannah, Ga.  
Schumacher & Boye, Cincinnati, O.  
Walke, Henry, Co., Norfolk, Va.

**Laundry Machinery.**  
Adams Laundry Machinery Co., Troy, N. Y.  
Dawson, A. L. & Co., Chicago, Ill.  
Sinclair Co., S. B., Chicago, Ill.  
Wilson Laundry Machinery Co., Columbia, Pa.

**Lead.** (Sheet.)  
Robertson Mfg. Co., James, Baltimore, Md.  
**Lead and Tin.** (Fig.)  
Hiatt, Theo. Metal Co., Louisville, Mo.  
Ryan & Co., J. J., Chicago, Ill.

**Letters.** (Pattern.)  
Brin, A. W., Seneca Falls, N. Y.

**Lime.**  
Caroline Portland Cement Co., Charleston, S. C.  
Maryland Lime & Cement Co., Balto., Md.  
Warner, Charles Co., Wilmington, Del.

**Locomotive Builders.**  
American Locomotive Co., New York, N. Y.  
Baldwin Locomotive Works, Philadelphia, Pa.  
Byers, Jno. P., Mch. Co., Evansville, O.  
Climax Mfg. Co., Corry, Pa.  
Low, Edgar S., Co., Pittsburg, Pa.  
Males Co., Cincinnati, O.  
Porter, H. K., Co., Pittsburg, Pa.

**Looms.**  
American Supply Co., Providence, R. I.  
**Looms and Weaving Machinery.**  
American Supply Co., Providence, R. I.  
Draper Co., Hopedale, Mass.  
Fairmount Machine Co., Philadelphia, Pa.  
Kilburn, Lincoln & Co., Fall River, Mass.  
Lowell Machine Shop, Boston, Mass.  
Mason Machine Works, Taunton, Mass.  
Tompkins, D. A., Co., Charlotte, N. C.

**Lubricating Compounds.**  
Galena Signal Oil Co., Galena, Pa.  
Robinson, Wm. C. & Sons Co., Baltimore, Md.  
Cook's, Adam, Sons, New York, N. Y.  
**Lubricators and Oil Cups.**  
Cook's Sons, Adam, New York, N. Y.  
Crosby Steam Gage & Valve Co., Boston, Mass.  
Detroit Lubricator Co., Detroit, Mich.  
Lunkenheimer Co., Cincinnati, O.  
Penberthy Injector Co., Detroit, Mich.

**Lumber.**  
Kirby Lumber Co., Houston, Tex.  
Price & Head, Baltimore, Md.  
Red Cypress Lumber Co., Macon, Ga.  
Stetson Lumber Co., Macon, Ga.

**Machinery.** (Special.)  
Eclipse Mch. Co., Chicago, Ill.  
Leffler, Charles, & Co., Brooklyn, N. Y.  
Mohannon Mfg. Co., Philadelphia, Pa.  
Roversford Foundry & Machine Co., Roversford, Pa.

**Machinery and Tools.** (New & Second-hand.)  
Amick, Geo. E., New York, N. Y.  
American, Chicago, Ill.  
American Elec. Supply & Mfg. Co., New York, N. Y.  
Armstrong, R. S. & Bro., Atlanta, Ga.  
Baird Machinery Co., Pittsburg, Pa.  
Baker, H. C. & Co., Philadelphia, Pa.  
Bennett, G. L., New York, N. Y.  
Binell, F. Co., Toledo, O.  
Bowen & Street Equipment Co., Norfolk, Va.  
Braden, Jas. S., New York, N. Y.  
Brown & Zortman Machinery Co., Pittsburg, Pa.  
Caine & Plitt, Philadelphia, Pa.  
Carlin Mch. & Supply Co., Allegheny, Pa.  
Casey, D. L., Mch. Co., Springfield, O.  
Chicago House Wrecking Co., Chicago, Ill.  
Cleveland Belting & Machinery Co., Cleveland, O.  
Clyde Mch. Works, Chicago, Ill.

**Mills.**  
Columbia Supply Co., Columbia, S. C.  
Columbus Iron & Steel Co., Columbus, O.  
Contractors' Equipment Co., Philadelphia, Pa.  
Contractors' Supply Co., Pittsburg, Pa.  
Contractors' Supply & Equipment Co., Chicago, Ill.  
Cox, Justice, Jr., & Co., Ltd., Philadelphia, Pa.  
Davis, W. F., Birmingham, Ala.  
Driscoll, John T. & Co., Chicago, Ill.  
Ellis, J. L., Co., Oklahoma City, Okla.  
Fidelity Machine & Metal Co., Philadelphia, Pa.  
Girard Machine & Tool Co., Philadelphia, Pa.  
Hanley, Wm., Bradford, Pa.  
Hartfelder-Garbutt Co., Savannah, Ga.  
Hines, H. A., Sons, Philadelphia, Pa.  
Huntington Machinery & Supply Co., Wilkesbarre, Pa.  
Kaiser, A. V. & Co., Philadelphia, Pa.  
Kennedy, L. E. & Co., New York, N. Y.  
Kohn, J. W. & Co., Cleveland, O.  
Lehman, Charles T., Birmingham, Ala.  
Lodge & Shipley Mch. Tool Co., Cincinnati, Ohio.  
Lucas, J. O. M., Baltimore, Md.  
Mallory, J. D., Baltimore, Md.

**Milling.**  
Mangel's Machinery Exchange, Baltimore, Md.  
Ponitzer & Co., Philadelphia, Pa.  
Price Machinery Co., Chicago, Ill.  
Rooster, MacGovern & Co., New York, N. Y.  
Samuel, Frank, Philadelphia, Pa.  
Saxton, J. C., New York, N. Y.  
Seyfert, L. F., Sons, Philadelphia, Pa.  
Shaw, Willis, Chicago, Ill.  
Stewart, John A., Electric Co., Cincinnati, O.  
Straub Machinery Co., Cincinnati, O.  
Thompson, Son & Co., New York, N. Y.  
Toomey, Frank, Philadelphia, Pa.  
Waters, John A. & Co., Richmond, Va.  
Wicks Bros., Pittsburg, Pa.  
Wolf, L. & Bro., Cincinnati, O.  
Wood & Co., Chicago, Ill.

**Machine Tools.**  
Baird Mch. Co., Pittsburg, Pa.  
Barnes, W. F. & J., Co., Rockford, Ill.  
Bickford Drill & Tool Co., Cincinnati, O.  
Cincinnati Milling Machine Co., Cincinnati, O.  
Feedick Mch. Tool Co., Cincinnati, O.  
Greaves, Kluman & Co., Cincinnati, O.  
Landis Tool Co., Waynesboro, Pa.  
McCabe, J. J., New York, N. Y.  
Pratt & Whitney, Hartford, Conn.  
Price, S. M., Machinery Co., Norfolk, Va.

**Machinists.**  
Savannah Loco. Works & Supply Co., Savannah, Ga.  
Schumacher & Boye, Cincinnati, O.  
Walke, Henry, Co., Norfolk, Va.

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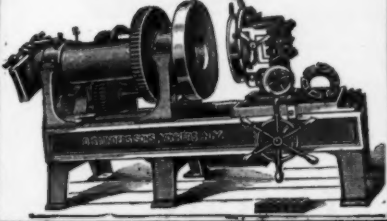
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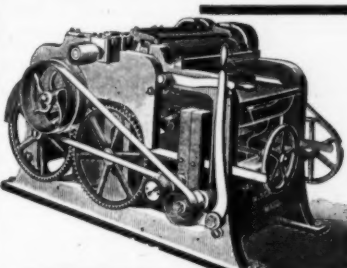
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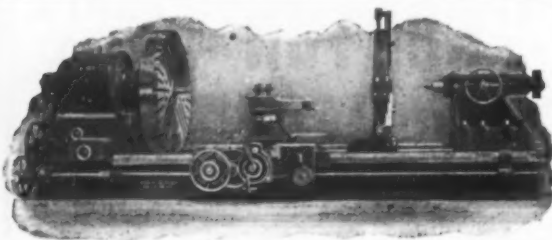
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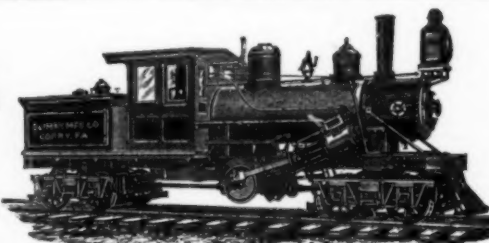
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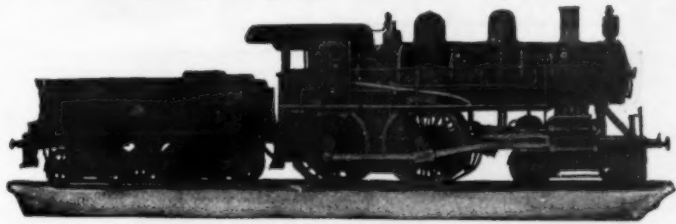
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**Paper.** (Sand, Emery.)  
Bader, Adamson & Co., Philadelphia, Pa.  
**Parquet.**  
Adams, J. M., Baltimore, Md.  
**Paste.** (Graphite Pipe Joint.)  
Wisconsin Graphite Co., Pittsburg, Pa.  
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Fay, J. A., & Egan Co., Cincinnati, O.  
**Patterns.** (Metal.)  
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Ryan, J. J., & Co., Chicago, Ill.  
Wilks Foundry Co., Toledo, O.  
**Patterns.** (Wooden.)  
Richmond Pattern Works, Richmond, Va.  
Wilks Foundry Co., Toledo, O.  
**Paving Material.**  
Barrett Mfg. Co., Philadelphia, Pa.  
National Roading & Supply Co., Louisville, Ky.  
**Perforated Metal.**  
Aitchison Perforated Metal Co., Robert, Chicago, Ill.  
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Harrington & King Perforating Co., Chicago, Ill.  
Hendrick Mfg. Co., The, Ltd., Carbonado, Pa.  
Ludlow-Saylor Wire Co., The, St. Louis, Mo.  
Mundt, Charles, & Sons, New York, N. Y.  
Simpson, W. R., & Son, New York, N. Y.  
**Petroleum.** (Fuel.)  
Gulf Refining Co., Pittsburg, Pa.  
**Phosphate Machinery.**  
Bailley-Lobby Co., The, Charleston, S. C.  
Bradley Pulverizer Co., Boston, Mass.  
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Crescon Co., Geo. V., New York, N. Y.  
Foss Mfg. Co., Springfield, O.  
Link-Belt Engineering Co., Philadelphia, Pa.  
McLanahan-Stone Machine Co., Hollidaysburg, Pa.  
Raymond Bros. Impact Pulverizer Co., Chicago, Ill.  
Simpson, J. S., & G. F., Brooklyn, N. Y.  
Smith & Co., F. L., New York, N. Y.  
Tompkins, D. A., Co., Charlotte, N. C.  
Valk & Murdoch Iron Works, Charleston, S. C.  
Walker & Elliott, Wilmington, Del.  
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Bran, J. J., & Co., Chicago, Ill.  
Phosphor Bronze Smelting Co., Ltd., Philadelphia, Pa.  
Van Duzen, E. W., Co., Cincinnati, O.  
**Pianos and Organs.**  
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Alabama Coal & Iron Co., Birmingham, Ala.  
Bourne-Fuller Co., Cleveland, O.  
**Piling.**  
International Crocoting & Const. Co., Galveston, Tex.  
West Pascagoula Crocote Wks., W. Pascagoula, Miss.  
**Pillow Blocks.**  
Caldwell, W. E., Co., Louisville, Ky.  
Crescon Co., Geo. V., New York, N. Y.  
Golden's Foundry & Machine Co., Columbus, Ga.  
**Pipe.** (Brass and Copper.)  
Waterbury Brass Co., New York, N. Y.  
**Pipe.** (Cast Iron.)  
Dimmick Pipe Co., Birmingham, Ala.  
General Fire Extinguisher Co., Providence, R. I.  
Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
U. S. Cast Iron Pipe & Foundry Co., Chattanooga, Tenn.  
Wood, B. D., & Co., Philadelphia, Pa.  
**Pipe.** (Coll.)  
National Pipe Bending Co., New Haven, Conn.  
Wolf Co., Fred. W., Chicago, Ill.  
**Pipe.** (Lead.)  
Robertson Mfg. Co., James, Baltimore, Md.  
**Pipe.** (Riveted.)  
American Spiral Pipe Works, Chicago, Ill.  
Girard Boiler & Mfg. Co., Girard, O.  
Keeler, E. Co., Williamsport, Pa.  
Petroleum Iron Works Co., Washington, Pa.  
**Pipe.** (Sewer and Culvert.)  
Georgia Vitified Brick & Clay Co., Augusta, Ga.  
Maryland Lime & Cement Co., Balto., Md.  
Pomona Terra Cotta Co., Pomona, N. C.  
Stevens' Sons Co., H., Macon, Ga.  
Talladay Steel Pipe & Tank Co., Waterloo, Ia.  
Warner Co., Chas., Wilmington, Del.  
**Pipe.** (Sheet Steel.)  
Dixie Mfg. Co., Baltimore, Md.  
Talladay Steel Pipe & Tank Co., Waterloo, Ia.  
**Pipe.** (Spiral Riveted.)  
American Spiral Pipe Works, Chicago, Ill.  
**Pipe.** (Wrought Iron.)  
Bourne-Fuller Co., Cleveland, O.  
Columbia Supply Co., Columbia, S. C.  
General Fire Extinguisher Co., Providence, R. I.  
Simmons, John, Co., New York City.  
**Pipe Cutting and Threading Mach.**  
Reed Mfg. Co., Erie, Pa.  
Saunders' Sons, D., Yonkers, N. Y.  
**Pipe Fittings.**  
Columbia Supply Co., Columbia, S. C.  
General Fire Extinguisher Co., Providence, R. I.  
Robertson Mfg. Co., James, Baltimore, Md.  
Simmons, John, Co., New York, N. Y.  
Wolf Co., Fred. W., Chicago, Ill.  
**Pipe Flanges.** (Weldless Steel.)  
Larrobe Steel Co., Philadelphia, Pa.  
**Pipe Unions and Joints.**  
Dart Mfg. Co., E. M., Providence, R. I.  
**Pianers.** (Metal.)  
Baird Mch. Co., Pittsburg, Pa.  
Bailley-Lobby Co., Charleston, S. C.  
Price, S. M., Machinery Co., Norfolk, Va.  
Savannah Locomotive & Car Works, Savannah, Ga.  
Waite, Henry, Co., Norfolk, Va.  
**Plating.** (Nickel.)  
Hanson & Van Winkle Co., Newark, N. J.  
Wisconsin Iron & Wire Works, Milwaukee, Wis.  
**Plumbers' Supplies and Tools.**  
Reed Mfg. Co., Erie, Pa.  
Robertson Mfg. Co., James, Baltimore, Md.  
Simmons, John, Co., New York City.  
**Portable Tools.** (For Railway Repair Shops.)  
Underwood, H. B., & Co., Philadelphia, Pa.  
**Power Transmitting Machinery.**  
Brown, A. & F., Co., New York, N. Y.  
Caldwell, H. W., & Son Co., Chicago, Ill.  
Case Mfg. Co., Columbus, O.  
Crescon Co., Geo. V., New York, N. Y.  
Fairmount Machine Co., Philadelphia, Pa.  
Hunt Co., G. W., New York, N. Y.  
Lane Mfg. Co., Montpelier, Vt.  
Link-Belt Engineering Co., Philadelphia, Pa.  
Northern Electric Mfg. Co., Madison, Wis.  
Nordyke & Marmon Co., Indianapolis, Ind.  
Wood's T. B., Sons, Chambersburg, Pa.  
**Presses.** (Rolling, Cottonseed Oil, etc., Hydraulic and Power.)  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Bushman Press Co., G. H., Thompsonville, Conn.  
Cardwell Machine Co., Birmingham, Ala.  
Continental Gls Co., Birmingham, Ala.  
Gibbs, W. H., & Co., Columbia, S. C.  
Johnson, John, & Co., New York, N. Y.  
Tompkins, D. A., Co., Charlotte, N. C.  
Valk & Murdoch Iron Works, Charleston, S. C.  
Watson-Sullivan Co., New York, N. Y.  
**Presses.** (Stamping.)  
Lester, Chas., & Co., Brooklyn, N. Y.  
Niagara Machine & Tool Works, Buffalo, N. Y.  
**Pulleys.** (Friction Clutch.)  
Blakeslee Mfg. Co., Birmingham, Ala.  
Brown, A. & F., Co., New York, N. Y.  
Crescon Co., Geo. V., New York, N. Y.  
Fairmount Machine Co., Philadelphia, Pa.  
Smith, S. Morgan, Co., York, Pa.  
Williams, M. F., Mfg. Co., St. Louis, Mo.  
Wood's T. B., Sons, Chambersburg, Pa.  
**Pulleys.** (Pneumatic.)  
Williams, M. F., Mfg. Co., St. Louis, Mo.  
**Pulleys.** (Wood Split.)  
Caldwell, H. W., & Son Co., Chicago, Ill.  
Caldwell, W. Co., Louisville, Ky.  
Chase Pulley Co., Providence, R. I.  
Federal Mfg. Co., Milwaukee, Wis.  
Keasey Pulley Co., Toledo, O.  
Lane Mfg. Co., Montpelier, Vt.

**Onide Steel Pulley Co., Onide, N. Y.**  
Price, S. M., Machinery Co., Norfolk, Va.  
Mazinsaw Mfg. Co., Mazinsaw, Mich.  
Smith, H. B., Machine Co., Smithville, N. J.  
**Pulleys.** (Steel Split.)  
American Pulley Co., Philadelphia, Pa.  
Federal Mfg. Co., Milwaukee, Wis.  
Onide Steel Pulley Co., Onide, N. Y.  
**Pulleys, Shafting and Hangers.**  
Brown, A. & F., Co., New York, N. Y.  
Caldwell, H. W., & Son Co., Chicago, Ill.  
Case Mfg. Co., Columbus, O.  
Crescon Co., Geo. V., New York, N. Y.  
Davis Foundry & Machine Works, Rome, Ga.  
Fairmount Machine Co., Philadelphia, Pa.  
Fay, J. A., & Egan Co., Cincinnati, O.  
Federal Mfg. Co., Milwaukee, Wis.  
Gainesville Iron Works, Gainesville, Ga.  
Golden's Foundry & Machine Co., Columbus, Ga.  
Greenwald Co., I. & E., Cincinnati, O.  
Jeffrey Mfg. Co., The, Columbus, O.  
Lane Mfg. Co., Montpelier, Vt.  
Link-Belt Engineering Co., Philadelphia, Pa.  
Lombard Iron Works Supply Co., Augusta, Ga.  
Maryland Foundry & Machine Co., Baltimore, Md.  
Nordyke & Marmon Co., Indianapolis, Ind.  
Price, S. M., Machinery Co., Norfolk, Va.  
Schonfeld, J. B., Sons Co., Macon, Ga.  
Smith, H. B., Machine Co., Smithville, N. J.  
Tompkins, D. A., Co., Charlotte, N. C.  
Valley Iron Works, Williamsport, Pa.  
Wolf Co., Chambersburg, Pa.  
Wood's T. B., Sons, Chambersburg, Pa.  
**Pumps.** (Hot Air.)  
American Machine Co., Wilmington, Del.  
**Pumps.** (Centrifugal.)  
Erie Pump & Engine Co., Erie, Pa.  
Southwark Foundry & Machine Co., Philadelphia, Pa.  
Wood & Co., R. D., Philadelphia, Pa.  
**Pumps.** (Hand.)  
Flint & Walling Mfg. Co., Kendallville, Ind.  
**Pumps.** (Hydraulic.)  
American Steam Pump Co., Battle Creek, Mich.  
Cardwell Machine Co., Richmond, Va.  
Niagara Hydraulic Engine Co., Chester, Pa.  
Watson-Sullivan Co., New York, N. Y.  
**Pumps.** (Pneumatic.)  
Bacon Air Lift Co., New York, N. Y.  
Ingersoll-Sergeant Drill Co., New York, N. Y.  
Pneumatic Engineering Co., New York, N. Y.  
**Pumps.** (Power Roller, Power Feed.)  
Cameron Steam Pump Works, A. S., New York, N. Y.  
McGowan Co., John H., Cincinnati, O.  
Park Mfg. Co., Charlotte, N. C.  
Worthington, Henry R., New York, N. Y.  
**Pumps.** (Steam.)  
Alberger Condenser Co., New York, N. Y.  
American Steam Pump Co., Battle Creek, Mich.  
Cameron Steam Pump Works, A. S., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Cook Well Co., St. Louis, Mo.  
Downie Pump Co., Downsville, Pa.  
Gibbs, W. H., & Co., Columbia, S. C.  
McGowan, John H., & Co., Cincinnati, O.  
Murray Iron Works, Burlington, Iowa.  
Price, S. M., Machinery Co., Norfolk, Va.  
Pulcometer Steam Pump Co., New York, N. Y.  
Savannah Locomotive & Car Works, Savannah, Ga.  
Scranton Steam Pump Co., Scranton, Pa.  
Stillwell-Bierce & Smith-Vaile Co., Dayton, O.  
Worthington, Henry R., New York, N. Y.  
**Pumps.** (Trench.)  
Edson Manufacturing Co., Boston, Mass.  
**Pumping Machinery.**  
American Steam Pump Co., Battle Creek, Mich.  
Bacon Air Lift Co., New York, N. Y.  
Cameron, A. S., Steam Pump Works, New York, N. Y.  
Cook Well Co., St. Louis, Mo.  
Downie Pump Co., Downsville, Pa.  
Erie Pump & Engine Co., Erie, Pa.  
Myers, F. E., & Bro., Ashland, O.  
Pneumatic Engineering Co., New York, N. Y.  
Stillwell-Bierce & Smith-Vaile Co., Dayton, O.  
Waite, Henry, Co., Norfolk, Va.  
Wood, B. D., & Co., Philadelphia, Pa.  
Worthington, Henry R., New York, N. Y.  
**Punching and Shearing Machinery.**  
Berach & Co., Cambridge City, Ind.  
Niagara Machine & Tool Works, Buffalo, N. Y.  
Robinson, J. M., Mfg. Co., Cincinnati, O.  
Roversford Foundry & Machine Co., Roversford, Pa.  
Wood, B. D., & Co., Philadelphia, Pa.  
**Quarrying and Stonecutting Mach.**  
Ingersoll-Sergeant Drill Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Rand Drill Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.  
**Rack Locomotives.** (See Locomotive Bldrs.)  
**Railroad Equipment and Supplies.** (New and Second-Hand.)  
Alabama Frog & Switch Co., Anniston, Ala.  
American Frog & Switch Co., Hamilton, O.  
American Locomotive Co., New York, N. Y.  
Apex Equipment Co., New York, N. Y.  
Bailley-Lobby Co., The, Charleston, S. C.  
Bourne-Fuller Co., Cleveland, O.  
Birmingham Ball & Locomotive Co., Birmingham, Ala.  
Bowen & Street Equipment Co., Norfolk, Va.  
Contractors Equipment Co., Philadelphia, Pa.  
Cox, Jr., Justice, & Co., Ltd., Philadelphia, Pa.  
Davis & Bryan, Philadelphia, Pa.  
Fitz-Hugh-Luther Co., Chicago, Ill.  
Harper Machinery Co., New York, N. Y.  
Hartfelder-Garbutt Co., Savannah, Ga.  
Hitner's, H. A., Sons, Philadelphia, Pa.  
Hyde Bros. & Co., Pittsburg, Pa.  
Johnson, Chas. F., Buffalo, N. Y.  
Joseph Iron Co., Isaac, Cincinnati, O.  
Kilby Locomotive & Machine Works, Anniston, Ala.  
Koppel, Arthur, New York, N. Y.  
Low, Edgar S., Co., Pittsburg, Pa.  
Machinery, J. H., & Co., Suffolk, Va.  
Males Co., Cincinnati, O.  
May & Spalding, Atlanta, Ga.  
New York Equipment Co., New York, N. Y.  
Porter, H. E., Co., Pittsburg, Pa.  
Poulter & Co., Philadelphia, Pa.  
Robinson & Orr, Pittsburg, Pa.  
Sabel Bros. Jacksonville, Fla.  
Savannah Loco. Wks. & Supply Co., Savannah, Ga.  
Smith-Courtney Co., Richmond, Va.  
Steel Rail Supply Co., The, New York, N. Y.  
Southern Iron & Equipment Co., Atlanta, Ga.  
Watson, Benj., New York, N. Y.  
Weir Frog Co., Cincinnati, O.  
Western Supply & Mfg. Co., East St. Louis, Mo.  
Worham-Magor Engine Works, New York, N. Y.  
Zellicker, W. A., Supply Co., St. Louis, Mo.  
**Rails.** (Steel.)  
Apex Equipment Co., New York, N. Y.  
Bourne-Fuller Co., Cleveland, O.  
Carey, George H., New York, N. Y.  
Continental Iron & Steel Co., New York, N. Y.  
Davis, O. W., New York, N. Y.  
Franks, J. E., Savannah, Ga.  
Hamel, Jno. J., & Co., Pittsburg, Pa.  
Hitner's, H. A., Sons, Philadelphia, Pa.  
Johnson, Chas. F., Buffalo, N. Y.  
Koppel, Arthur, New York, N. Y.  
Machinery, J. H., & Co., Suffolk, Va.  
Males Co., Cincinnati, O.  
Maryland Ball Co., Cumberland, Md.  
Richardson & Co., Inc., Pittsburg, Pa.  
Robinson & Orr, Pittsburg, Pa.  
Rutter, C. H., Easton, Pa.  
Schonthal Iron & Steel Co., Cumberland, Md.

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Rhode Island Works, Providence, R. I.

Dickson Works, Scranton, Pa.

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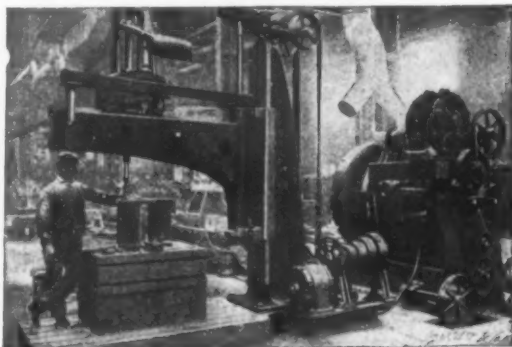
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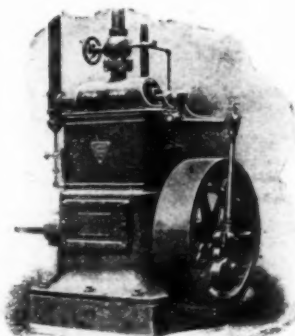
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Power Brakes for Traction Service.  
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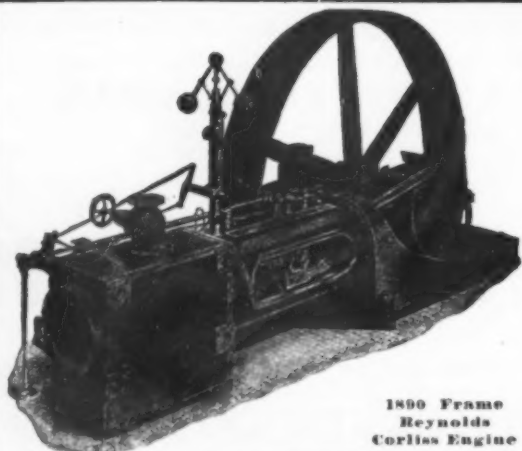
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## Classified Index of Articles Advertised

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Simpers, Thos. W., & Co., Philadelphia, Pa.  
Steel Mill Supply Co., The, New York, N. Y.  
Union Mill Co., Pittsburgh, Pa.  
Western Supply & Mfg. Co., East St. Louis, Mo.  
Worham-Magor Eng. Works, New York, N. Y.  
Zelicker, W. A., Supply Co., St. Louis, Mo.

**Reamers.**  
More Twist Drill & Machine Co., New Bedford, Mass.  
Pratt & Whitney Co., Hartford, Conn.  
Folk, A. J., & Son, Millersburg, Pa.

**Regulators.** (Water and Steam Pressure.)  
Crosby Steam Gauge & Valve Co., Boston, Mass.

**Refrigerators.** (Engine and Pump.)  
Underwood, H. B., & Co., Philadelphia, Pa.

**Riveters.** (Pneumatic.)  
Rand Drill Co., New York, N. Y.

**Road Machinery.**  
Acme Road Machinery Co., Frankfort, N. Y.  
Kelly-Springfield Road Roller Co., Springfield, O.  
Kilbourne & Jacobs Mfg. Co., Columbus, O.

**Rock Crushers.**  
Austin Mfg. Co., Chicago, Ill.  
Creson, Geo. V., Co., New York, N. Y.  
N. J. Foundry & Machine Co., New York, N. Y.

**Roofers' and Timbers' Supplies.**  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Wagon Machine & Tool Works, Buffalo, N. Y.  
Merchant & Co., Inc., Philadelphia, Pa.  
Robinson, J. M. Mfg. Co., Cincinnati, O.

**Roofing Tin.** (SEE TIN ROOFING.)  
**Roofing.** (Felt, Tar, Asphalt, Paper, etc.)  
American Roofing Co., Mobile, Ala.  
American Tinplate Co., Pittsburgh, Pa.  
Armstrong Mfg. Co., The, Richmond, Va.  
Asphalt Ready Roofing Co., New York, N. Y.  
Barrett Mfg. Co., Philadelphia, Pa.  
Buchanan-Foster Co., Philadelphia, Pa.  
Bird, F. W., & Co., East Walpole, Mass.  
Bird, J. A., & W. & Co., Boston, Mass.  
Carey, Philip, Mfg. Co., Lockland, O.  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Eastern Granite Roofing Co., New York, N. Y.  
Garrett, C. B., & Son, Co., Philadelphia, Pa.  
Maryland Lime & Cement Co., Balto., Md.  
Miller Oil & Supply Co., Indianapolis, Ind.  
National Roofing & Supply Co., Louisville, Ky.  
Standard Paint Co., New York, N. Y.  
Stowell Mfg. Co., Jersey City, N. J.  
Warren Chemical & Mfg. Co., New York, N. Y.  
Zelicker, W. A., Supply Co., St. Louis, Mo.

**Roofing.** (Metal Shingles.)  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Merchant & Co., Inc., Philadelphia, Pa.  
Montrose Metal Shingle Co., Camden, N. J.  
Penn Metal Ceiling & Roofing Co., Phila., Pa.

**Roofing.** (Slate.)  
Downman-Dosier Mfg. Co., Atlanta, Ga.  
Galt, John, & Sons, New York, N. Y.  
Genuine Bangor Slate Co., Easton, Pa.  
McKenna, David, Slatington, Pa.

**Roofing and Siding.** (Metal.)  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Downman-Dosier Mfg. Co., Atlanta, Ga.  
Merchant & Co., Inc., Philadelphia, Pa.  
Scalfe, Wm. B., & Sons Co., Pittsburg, Pa.  
Simpers, Thos. W., & Co., Philadelphia, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Ropes.** (Transmission.)  
American Mfg. Co., The, New York, N. Y.  
Broderick & Esocope Rope Co., St. Louis, Mo.  
Caldwell, W. E., Co., Louisville, Ky.  
Columbian Cordage Co., Auburn, N. Y.  
Creson Co., Geo. V., New York, N. Y.  
Durable Wire Rope Co., Boston, Mass.  
Hunt Co., O. W., West Brighton, N. Y.  
Ironside Co., Columbus, O.  
Link-Belt Engineering Co., Philadelphia, Pa.  
Woods' Sons, T. B., Chambersburg, Pa.

**Rubber Goods.**  
Boston Belting Co., Boston, Mass.  
Eureka Fire Hose Co., New York, N. Y.  
New Jersey Car Spring & Rubber Co., Jersey City, N. J.  
Pennsylvania Rubber Co., New York, N. Y.  
Voorhees Rubber Mfg. Co., Jersey City, N. J.

**Sacks.** (Fertilizer.)  
Rey, John T., & Co., Philadelphia, Pa.

**Safety Water Columns and Gauges.**  
Amer. Steam Gauge & Valve Mfg. Co., Jam. Plain, Mass.  
Crosby Steam Gauge & Valve Co., Boston, Mass.  
Lunkenheimer Co., Cincinnati, O.  
Reliance Gauge Column Co., Cleveland, O.

**Safes and Vaults.**  
York Safe & Lock Co., York, Pa.

**Saws.** (Band.)  
Atkins, E. C., & Co., Indianapolis, Ind.  
Fay, J. A., & Egan Co., Cincinnati, O.  
Smith, H. B., Machine Co., Smithville, N. J.

**Saw Grinders.**  
Miller Oil & Supply Co., Indianapolis, Ind.

**Saws.** [See Woodworking Machinery.]  
Atkins, E. C., & Co., Indianapolis, Ind.  
Gibbs, W. H., & Co., Columbia, S. C.  
Huther Bros., Rochester, N. Y.  
Miller Oil & Supply Co., Indianapolis, Ind.  
Smith, H. B., Machine Co., Smithville, N. J.

**Saw-Mill Machinery.**  
Bailey-Lebby Co., The, Charleston, S. C.  
Beach, H. W., Montrose, Pa.  
Cameron & Barkley Co., Charleston, S. C.  
Chattanooga Machinery Co., Chattanooga, Tenn.  
Columbia Supply Co., Columbia, S. C.  
DeLoach Mill Mfg. Co., Atlanta, Ga.  
Farquhar Co., A. B., Ltd., York, Pa.  
Fay, J. A., & Egan Co., Cincinnati, O.  
Frick Co., Weymouth, Pa.  
Gibbs, W. H., & Co., Columbia, S. C.  
Hartfelder-Garbutt Co., Savannah, Ga.  
Hench & Dromgold Co., York, Pa.  
Hill, Wm. E., & Co., Kalamazoo, Mich.  
Lane Mfg. Co., Montpelier, Vt.  
Mecklenburg Iron Works, Charlotte, N. C.  
Schofield's, J. S., Sons Co., Macon, Ga.  
Smith, H. B., Machine Co., Smithville, N. J.  
Soule Steam Feed Works, Meridian, Miss.  
Southern Eng. & Boiler Works, Jackson, Tenn.  
Union Iron Works Co., Selma, Ala.  
Zelicker, W. A., Supply Co., St. Louis, Mo.

**Saw Sharpeners and Files.** (Cotton Gin.)  
Carver Cotton Gin Co., East Bridgewater, Mass.

**Scales.**  
McDonald Bros., Pleasant Hill, Mo.  
Osgood Scale Co., Binghamton, N. Y.  
Richardson Scale Co., New York, N. Y.  
Standard Scale & Supply Co., Ltd., Pittsburg, Pa.

**Scales.** (Automatic.)  
Richardson Scale Co., New York, N. Y.

**Serp Iron and Steel.**  
May & Spalding, Atlanta, Ga.  
Cohen-Schwartz Hall & Steel Co., St. Louis, Mo.

**Screens.** (Fly, Window and Door.)  
Burrows, E. T., Co., Portland, Me.  
New Jersey Wire Cloth Co., Trenton, N. J.

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Atchison, R., Perforated Metal Co., Chicago, Ill.  
Beckley, A. J., Co., Garwood, N. J.  
Creson Co., Geo. V., New York, N. Y.  
Harrington & King Perforating Co., Chicago, Ill.  
Hendrick Mfg. Co., Ltd., Carbondale, Pa.  
Jeffrey Mfg. Co., The, Columbus, O.  
Ludlow-Saylor Wire Co., The, St. Louis, Mo.  
New Jersey Wire Cloth Co., Trenton, N. J.  
Meyers Mfg. Co., Fred. J., Hamilton, O.  
Mundt & Sons, Charles, New York, N. Y.  
McLanahan-Stone Machine Co., Hollidaysburg, Pa.  
Wisconsin Iron & Wire Works, Milwaukee, Wis.

**Screw Plates.**  
Folk, A. J., & Son, Millersburg, Pa.

**Screw Saws.** [See Woodworking Machinery.]  
Fay, J. A., & Egan Co., Cincinnati, O.  
Smith, H. B., Machine Co., Smithville, N. J.

**Seals.** (Block Certificates, etc.)  
Middleton, J. W., Chicago, Ill.  
National Seal Works, Richmond, Va.

**Separators.** (Dust.)  
Allington & Curtis Mfg. Co., Saginaw, Mich.  
Dixie Mfg. Co., Baltimore, Md.  
Sturtevant Co., B. F., Boston, Mass.

**Separators.** (Steam and Oil.)  
Bates Machine Co., Joliet, Ill.  
Scranton Steam Pump Co., Scranton, Pa.  
Webster & Co., Warren, Philadelphia, Pa.

**Shapers.**  
Bailey-Lebby Co., Charleston, S. C.  
Baird Mch. Co., Pittsburg, Pa.  
Price, S. M., Machinery Co., Norfolk, Va.  
Waikes, Henry Co., Norfolk, Va.

**Sharpening Stones.**  
Pike Mfg. Co., Pike Station, N. H.  
Vitrified Wheel Co., Westfield, Mass.

**Sheet Steel and Iron.**  
Bourne-Fuller Co., Cleveland, O.  
Simpers, Thos. W., & Co., Philadelphia, Pa.

**Shingles.** (Metal.)  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Merchant & Co., Inc., Philadelphia, Pa.  
Montrose Metal Shingle Co., Camden, N. J.  
Penn Metal Ceiling & Roofing Co., Phila., Pa.

**Ship Builders.** (Iron and Steel.)  
Baltimore Shipbuilding & Dry Dock Co., Balto., Md.  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

**Shutters.** (Steel Rolling.)  
Kinners Mfg. Co., Columbus, O.

**Sky Lights.**  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Downman-Dosier Mfg. Co., Atlanta, Ga.  
Merchant & Co., Inc., Philadelphia, Pa.  
Van Noorden, E. Co., Boston, Mass.

**Slate.** (Roofing.)  
Galt, John, & Sons, New York, N. Y.  
Genuine Bangor Slate Co., Easton, Pa.  
McKenna, David, Slatington, Pa.

**Sinters' Tools.**  
Galt, John, & Sons, New York, N. Y.

**Smoke Stacks.** (Iron and Steel.)  
Birmingham Boiler Works, Birmingham, Ala.  
Girard Boiler & Mfg. Co., Girard, O.  
Keeler, E. Co., Williamsport, Pa.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Petroleum Iron Works Co., Washington, Pa.  
Schofield's, J. S., Sons Co., Macon, Ga.

**Solder.**  
Hertz, Theo., Metal Co., St. Louis, Mo.  
Ryan, J. J., & Co., Chicago, Ill.

**Speaking Tubes.**  
Electrical Material Co., Baltimore, Md.

**Speller.**  
Hertz, Theo., Metal Co., St. Louis, Mo.

**Spikes.**  
The Diamond State Steel Co., Wilmington, Del.

**Springs.** (Bicycle Saddle, Machinery, Railway and Spiral.)  
Boston Belting Co., Boston, Mass.  
Cary Spring Works, New York, N. Y.  
Ludlow-Saylor Wire Co., The, St. Louis, Mo.

**Sprinklers.** (Automatic.)  
Bailey-Lebby Co., Charleston, S. C.  
General Fire Extinguisher Co., Providence, R. I.

**Stamp Mills.**  
Guineville Iron Works, Gainesville, Ga.  
Mecklenburg Iron Works, Charlotte, N. C.

**Standpipes.**  
Birmingham Boiler Works, Birmingham, Ala.  
Girard Boiler & Mfg. Co., Girard, O.  
Hartley Boiler Works, Montgomery, Ala.  
Keeler, E. Co., Williamsport, Pa.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Means & Fulton Iron Works, Birmingham, Ala.  
Petroleum Iron Works Co., Washington, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Steam Fitters Supplies.**  
General Fitting Works Co., Providence, R. I.  
Maxfield, H. E., & Co., New York, N. Y.  
McWilliams, Jos., & Co., Louisville, Ky.  
Reed Mfg. Co., Erie, Pa.  
Simmons, John, Co., New York City.

**Steam Gages.**  
American Steam Gauge & Valve Mfg. Co., Jamaica Plain, Mass.  
Crosby St. Gauge & Valve Co., Boston, Mass.  
Lunkenheimer Co., Cincinnati, O.

**Steam Sealing.**  
General Fire Extinguisher Co., Providence, R. I.

**Keeler, E. Co., Williamsport, Pa.**  
Tompkins, D. A., Co., Charlotte, N. C.  
Webster & Co., Warren, Camden, N. J.

**Steam Shovels.** [See Dredges and Excavators.]

**Steam Traps.**  
American Blower Co., Detroit, Mich.  
Haines, W. S., Co., Phila., Pa.  
Sturtevant Co., B. F., Boston, Mass.

**Steamship Lines.**  
Baltimore Steam Packet Co., Baltimore, Md.  
Chesapeake Steamship Co., Baltimore, Md.  
Detroit & Buffalo Steamship Co., Detroit, Mich.  
Merchants & Miners' Trans. Co., Baltimore, Md.

**Steel.** (Manufacturers of.)  
American Steel Steel Co., New York, N. Y.  
Bourne-Fuller Co., Cleveland, O.  
Chester Steel Castings Co., Philadelphia, Pa.  
Kennedy, Walter, Pittsburg, Pa.  
The Diamond State Steel Co., Wilmington, Del.

**Steel Buildings.** (Designers, Builders.)  
Frank & Hazen, Baltimore, Md.  
General Supply & Construction Co., New York, N. Y.  
Scalfe, Wm. B., & Sons Co., Pittsburg, Pa.  
Schreiber, L., & Sons Co., Cincinnati, O.  
Va. Bridge & Iron Co., Roanoke, Va.

**Steel Complexes.** (Automatic.)  
Latrobe Steel & Coupler Co., Philadelphia, Pa.

**Stills.** (Turpentine.)  
McMillan Bros. Co., Mobile, Ala.

**Stock Certificates, Bonds and Seals.**  
Middleton, J. W., Chicago, Ill.  
Myers Printing House, New Orleans, La.  
National Seal Works, Richmond, Va.

**Stokers.** (Mechanical.)  
Westinghouse, Church, Kerr & Co., Pittsburg, Pa.  
Westinghouse Machine Co., Pittsburg, Pa.

**Storage Receipts.**  
Baltimore Fidelity Warehouse Co., Baltimore, Md.

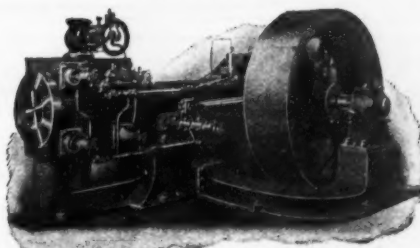
**Structural Steel and Iron.**  
Belmont Iron Works, Philadelphia, Pa.  
Bourne-Fuller Co., Cleveland, O.  
Chesapeake Iron Works, Baltimore, Md.  
Eureka Supply Co., Chattanooga, Tenn.  
General Supply & Construction Co., New York, N. Y.  
Girard Boiler & Mfg. Co., Girard, O.  
Scalfe, Wm. B., & Sons Co., Pittsburg, Pa.  
Schreiber, L., & Sons Co., The, Cincinnati, O.  
Simpers, Thos. W., & Co., Philadelphia, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Wisconsin Iron & Wire Works, Milwaukee, Wis.

**Switchboards, Switches, etc.**  
Electrical Material Co., Baltimore, Md.  
Standard Electric Co., Norfolk, Va.  
Western Electrical Supply Co., St. Louis, Mo.  
Westinghouse Electric & Mfg. Co., Pittsburg, Pa.

**Tanks.** (Iron and Steel.)  
Birmingham Boiler Works, Birmingham, Ala.  
Caldwell, W. E., Co., Louisville, Ky.  
Flint & Walling Mfg. Co., Kendaalville, Ind.  
Girard Boiler & Mfg. Co., Girard, O.  
Hammond Iron Works, Warren, Pa.  
Harry Bros. Co., Dallas, Tex.  
Hartley Boiler Works, Montgomery, Ala.  
Keeler Co., E., Williamsport, Pa.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Means & Fulton Iron Works, Birmingham, Ala.  
Petroleum Iron Works Co., Washington, Pa.  
Scalfe, W. B., & Sons Co., Pittsburg, Pa.  
Schofield's, J. S., Sons Co., Macon, Ga.  
Smith Co., S. Morgan, York, Pa.  
Talladay Steel Pipe & Tank Co., Waterloo, Ia.



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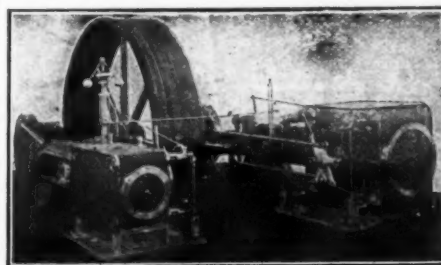
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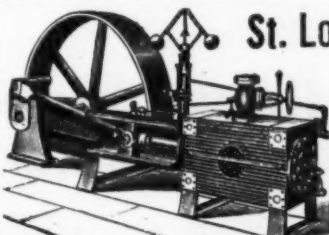
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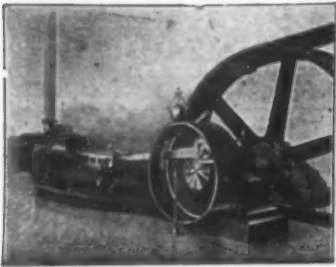
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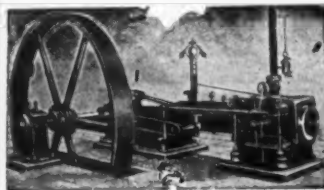


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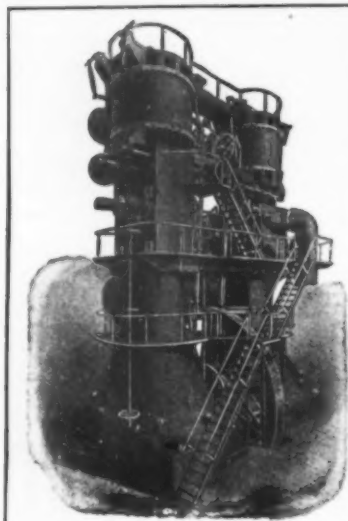
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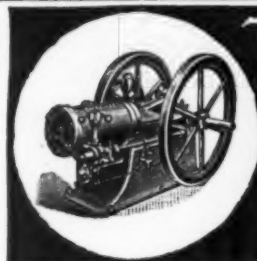
Slide-Valve Engines, Tubular  
Boilers and Saw-Mill  
Machinery.



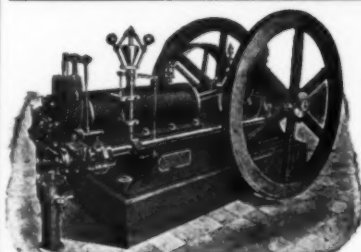
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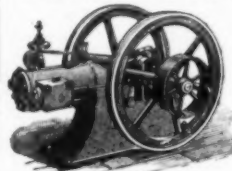


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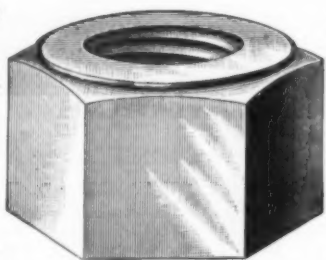


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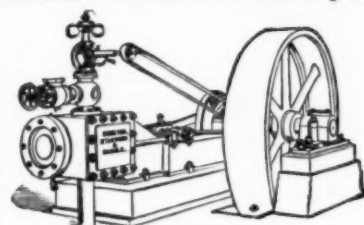


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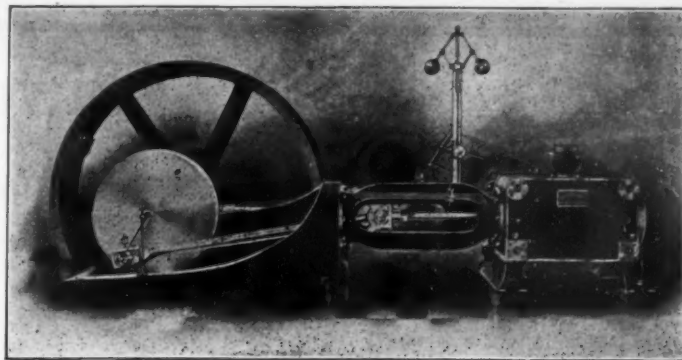


## Classified Index of Articles Advertised

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Tompkins, D. A. Co., Charlotte, N. C.  
 Valk & Murdoch Iron Works, Charleston, S. C.  
 Virginia Bridge & Iron Co., Roanoke, Va.  
 Wood, R. D., & Co., Phila., Pa.  
**Tanks.** (Wood.)  
 Caldwell Co., W. E., Louisville, Ky.  
 Cypress Lumber Co., Apalachicola, Fla.  
 Davis, G. M., & Son, Palatka, Fla.  
 Lewis, H. F., & Co., Ltd., New Orleans, La.  
 Tupelo Tank Co., Mobile, Ala.  
**Tapes.** (Measuring.)  
 Lufkin Rule Co., Saginaw, Mich.  
**Telephones.** (Supplies, Equipment.)  
 Alexander, Jr., Co., S. B., Charlotte, N. C.  
 Electric Supply Co., Savannah, Ga.  
 Electrical Material Co., Baltimore, Md.  
 Piedmont Electric Co., Asheville, N. C.  
 Standard Electric Co., Norfolk, Va.  
 Western Electrical Supply Co., St. Louis, Mo.  
**Telephone Poles.**  
 Electrical Material Co., Baltimore, Md.  
 Houston & Liggett, Lewisburg, Tenn.  
 International Crosscutting & Const. Co., Galveston, Tex.  
**Terne Plate.**  
 Merchant & Co., Inc., Philadelphia, Pa.  
 Stimpers, Thos. W., & Co., Philadelphia, Pa.  
 Taylor, N. & G., Philadelphia, Pa.  
**Terra Cotta.**  
 Pomona Terra Cotta Co., Pomona, N. C.  
 Stevens, H., Sons, Co., Macon, Ga.  
**Textile Machinery.** (See Cotton Mill Mach.)  
**Threshers.**  
 Farquhar, A. B., Co., York, Pa.  
 Cardwell Machine Co., Richmond, Va.  
 Gibbs, W. H., & Co., Columbia, S. C.  
**Tim.** (Roofing.)  
 American Tinplate Co., New York, N. Y.  
**Tinplate.**  
 American Tinplate Co., New York, N. Y.  
 Merchant & Co., Inc., Philadelphia, Pa.  
 Stimpers, Thos. W., & Co., Philadelphia, Pa.  
**Tires, Steel.** (Locomotive and Car.)  
 Latrobe Steel Co., Philadelphia, Pa.  
**Tobacco Machinery.**  
 Buckeye Iron & Brass Works, Dayton, O.  
 Cardwell Machine Co., Richmond, Va.  
**Tools.** (Machines.) (See Machine Tools.)  
**Tools.** (Machinists.)  
 Barnes, W. F. & John, Co., Rockford, Ill.  
 Morse Twist Drill & Machine Co., New Bedford, Mass.  
 Polk, A. J., & Son, Millersburg, Pa.  
 Pratt & Whitney Co., Hartford, Conn.  
**Tools.** (Pneumatic.)  
 Band Drill Co., New York, N. Y.  
**Tools.** (Tinner's.)  
 Niagara Machine & Tool Works, Buffalo, N. Y.  
**Tools.** (For Rwy. Rep. Shops.) (See Port. Tools.)  
**Torches.**  
 Gem Mfg. Co., Pittsburg, Pa.  
 Wall, P. Mfg. Co., Allegheny, Pa.  
**Towers.** (Steel and Wood.)  
 Caldwell Co., W. E., Louisville, Ky.  
 Flint & Walling Mfg. Co., Kendallville, Ind.  
 Tompkins, D. A., Co., Charlotte, N. C.  
**Tramway.** (Overhead.)  
 Cohoes Iron Foundry & Machine Co., Cohoes, N. Y.  
 Moyer, J. W., & Co., Philadelphia, Pa.  
 New Jersey Fdy. & Mch. Co., New York, N. Y.  
 Spindel, J. G., Reading, Pa.  
**Tramway.** (Wire Rope.)  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Caldwell, H. W., & Sons Co., Chicago, Ill.  
 Cresson Co., George Y., New York, N. Y.  
 Flory, S., Mfg. Co., Bangor, Pa.  
 Hunt Co., C. W., New York, N. Y.  
 Jeffrey Mfg. Co., Columbus, O.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Link-Belt Engineering Co., Niagara (Phila.), Pa.  
 McLanahan-Stone Machine Co., Hollidaysburg, Pa.  
 Trenton Iron Co., Trenton, N. J.  
**Trucks and Drays.** (Hand.)  
 Horner, W. P., Mfg. Co., Danville, Va.  
**Tube Cleaners.**  
 Gem Mfg. Co., Pittsburg, Pa.  
**Tubing.**  
 Ludlow-Baylor Wire Co., The, St. Louis, Mo.  
**Tubing.** (Seamless, Brass, Copper & Brased.)  
 Waterbury Brass Co., New York, N. Y.  
**Turbines.** (See Water Wheels.)  
**Turbines.** (Steam.)  
 Westinghouse, Church, Kerr & Co., Pittsburg, Pa.  
 Westinghouse Machine Co., Pittsburg, Pa.  
**Turntables.**  
 Koppel, Arthur, New York City.  
 Males Co., Cincinnati, O.  
 Virginia Bridge & Iron Co., Roanoke, Va.  
**Typewriter Table Cabinets.**  
 Dearborn Desk Co., Birmingham, Ala.  
**Valves.**  
 Amer. Stm. Gauge & Valve Mfg. Co., Jam. Plain, Mass.  
 Boston Belting Co., Boston, Mass.  
 Columbia Supply Co., Columbia, S. C.  
 Crosby Steam Gauge & Valve Co., Boston, Mass.  
 General Fire Extinguisher Co., Providence, R. I.  
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
 Jenkins Bros., New York, N. Y.  
 Ludlow Valve Mfg. Co., Troy, N. Y.  
 Lunkenheimer Co., Cincinnati, O.  
 Simmons, John, Co., New York City.  
 Vorhees Rubber Mfg. Co., Jersey City, N. J.  
 Wolf, Fred, W., & Co., Chicago, Ill.  
 Wood, R. D., & Co., Philadelphia, Pa.  
**Veneer Machines.**  
 Coe Mfg. Co., The, Painesville, O.  
 Titus, E. E., Petersburg, Va.  
**Ventilators.**  
 Downman-Doxier Mfg. Co., Atlanta, Ga.  
 Merchant & Co., Inc., Philadelphia, Pa.  
**Vises.**  
 Reed Mfg. Co., Erie, Pa.  
**Wagon Builders' Mch. & Supplies.**  
 Cordeman, Meyer & Co., Cincinnati, O.  
 Fay, J. A., & Egan Co., Cincinnati, O.  
**Warehouse.** (Fidelity.)  
 Baltimore Fidelity Warehouse Co., Baltimore, Md.  
**Washers.** (Ore and Phosphate.)  
 Bailey-Lebby Co., The, Charleston, S. C.  
 Cameron & Barkley Co., Charleston, S. C.  
 McLanahan-Stone Co., Hollidaysburg, Pa.

**Watchman's Clocks.**  
 Electrical Material Co., Baltimore, Md.  
 Imhauser & Co., E., New York City.  
 Nans & Co., New York, N. Y.  
 Waggoner Watchman Clock Co., Grand Rapids, Mich.  
**Water Power.**  
 Roanoke Navigation & Water Power Co., Weldon, N. C.  
**Waterproof Cellar Engineer.**  
 Gilbreth, Frank B., Boston, Mass.  
**Water-Wheel Governor.**  
 Reingle Governor Works, Akron, O.  
**Water Softening Apparatus.** (Paritying.)  
 Seale, Wm. B., & Sons Co., Pittsburg, Pa.  
**Water-Wheels and Turbines.**  
 Davis Foundry & Machine Works, Rome, Ga.  
 Lane Mfg. Co., Montpelier, Vt.  
 Leffel, James, & Co., Springfield, O.  
 Norrish, Burnham & Co., Inc., Glen Rock, Pa.  
 Rindon-Alcott Turbine Co., Mount Holly, N. J.  
 Smith Co., S. Morgan, York, Pa.  
 Stilwell-Bierce & Smith-Vaile Co., Dayton, O.  
 Westinghouse, Church, Kerr & Co., Pittsburg, Pa.  
 Westinghouse Mch. Co., Pittsburg, Pa.  
**Water Motors.**  
 Pittsburg Motor Co., E. Pittsburg, Pa.  
 Worthington, Henry R., New York, N. Y.  
**Water-Works Supplies.**  
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
 Pomona Terra Cotta Co., Pomona, N. C.  
 Stevens, H., Sons, Co., Macon, Ga.  
 U. S. Cast Iron Pipe & Foundry Co., Chicago, Ill.  
 Wood, R. D., & Co., Philadelphia, Pa.  
**Weighing Machinery.** (Automatic.)  
 Richardson Scale Co., New York, N. Y.  
**Well Contractors.** (Oil, Artesian, etc.)  
 Andrews, Perry & Bro., Atlanta, Ga.  
 Bacon Air Lift Co., New York, N. Y.  
 Cook Well Co., St. Louis, Mo.  
 Ford, Isaac H., New York, N. Y.  
 Hughes Specialty Well Drilling Co., Charleston, S. C.  
 Kelly & Taneyhill Co., Waterloo, Ia.  
 Williams Bros., Ithaca, N. Y.  
**Wheelbarrows and Trucks.**  
 Jackson Mfg. Co., Harrisburg, Pa.  
 Kilbourne & Jacobs Mfg. Co., Columbus, O.  
**Whistles.** (Chimes, Sirens, etc.)  
 Amer. Stm. Gauge & Valve Mfg. Co., Jam. Plain, Mass.  
 Crosby Steam Gauge & Valve Co., Boston, Mass.  
 Lunkenheimer Co., Cincinnati, O.  
**White Lead.**  
 French, Samuel H., & Co., Philadelphia, Pa.  
**Whitewashing Machinery.**  
 Star Brass Works, Chicago, Ill.  
**Windlasses.**  
 American Ship Windlass Co., Providence, R. I.  
**Windmills.**  
 Flint & Walling Mfg. Co., Kendallville, Ind.  
**Window Guards.** (Wire.) (See Wire Goods.)  
**Wire.** (Barred Wire, etc.)  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Ludlow-Baylor Wire Co., The, St. Louis, Mo.  
 Roebeling's, J. A., Sons Co., Trenton, N. J.  
**Wire.** (Brass and Copper.)  
 Waterbury Brass Co., New York, N. Y.  
**Wire Cloth.** (Iron, Steel, Brass, etc.)  
 Buffalo Wire Works Co., Buffalo, N. Y.  
 Caldwell, H. W., & Sons Co., Chicago, Ill.  
 Meyers, Fred, J., Mfg. Co., Hamilton, O.  
 New Jersey Wire Cloth Co., Trenton, N. J.  
**Wire Goods.**  
 Boole Iron & Wire Works, J. E., Detroit, Mich.  
 Buffalo Wire Works Co., Buffalo, N. Y.  
 Dufur & Co., Baltimore, Md.  
 Eureka Supply Co., Chattanooga, Tenn.  
 Ludlow-Baylor Wire Co., The, St. Louis, Mo.  
 Meyers Mfg. Co., The, Fred J., Hamilton, O.  
 New Jersey Wire Cloth Co., Trenton, N. J.  
**Wire Netting.**  
 Buffalo Wire Works Co., Buffalo, N. Y.  
 New Jersey Wire Cloth Co., Trenton, N. J.  
**Wire Rope.**  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Contractors Plant Mfg. Co., Buffalo, N. Y.  
 Durable Wire Rope, Boston, Mass.  
 Hazard Mfg. Co., Wilkes-Barre, Pa.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Roebeling's John A., Sons Co., Trenton, N. J.  
 Trenton Iron Co., Trenton, N. J.  
**Wire Rope Filler.**  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Ironsides Co., Columbus, O.  
**Wire Rope Shields.**  
 Ironsides Co., Columbus, O.  
**Wire Rope Thimbles.**  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Jackson Mfg. Co., Harrisburg, Pa.  
**Woodboring Machines.** (Pneumatic.)  
 Rand Drill Co., New York, N. Y.  
**Woodsplitting Machines.**  
 Fay, J. A., & Egan Co., Cincinnati, O.  
**Woodworking Machinery.**  
 Chattanooga Machinery Co., Chattanooga, Tenn.  
 Coe Mfg. Co., The, Painesville, O.  
 De Loach Mill Mfg. Co., Atlanta, Ga.  
 Fay, J. A., & Egan Co., Cincinnati, O.  
 Gibbs, W. H., & Co., Columbia, S. C.  
 Hermance Mch. Co., Williamsport, Pa.  
 Huther Bros., Rochester, N. Y.  
 Lane Mfg. Co., Montpelier, Vt.  
 Miller Oil & Supply Co., Indianapolis, Ind.  
 Moehannan Mfg. Co., Philadelphia, Pa.  
 Ober Mfg. Co., Chagrin Falls, O.  
 Root, E. M., York, Pa.  
 Shimer, Samuel J., & Sons, Milton, Pa.  
 Smith-Courtney Co., Richmond, Va.  
 Smith, H. B., Machine Co., Smithville, N. J.  
 Walke, Henry Co., Norfolk, Va.  
 Whitney, E. D., & Son, Winchendon, Mass.  
**Yellow Metal.** (Sheet and Rod.)  
 Waterbury Brass Co., New York, N. Y.  
**Zinc.**  
 Merchant & Co., Inc., Philadelphia, Pa.  
 New Jersey Zinc Co., New York, N. Y.



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The latest designs in Mechanical Engineering.

QUICK DELIVERIES.

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Adams Street, Kansas City.

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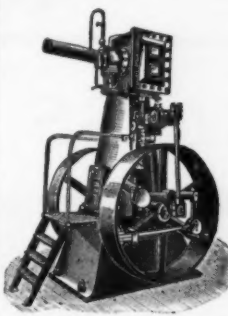
For All Service.

SINGLE EXPANSION  
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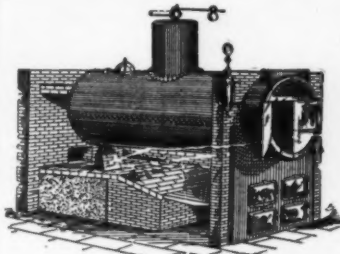
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FRANKLIN, PA., U. S. A.

Engines, Boilers,  
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Manufacturers of

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LOCOMOTIVE REBUILDING A SPECIALTY.

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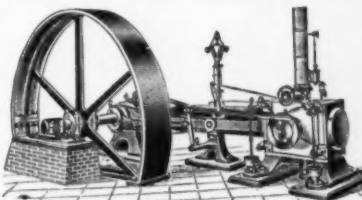
Richmond, Va.

SOUTHERN AGENTS FOR THE

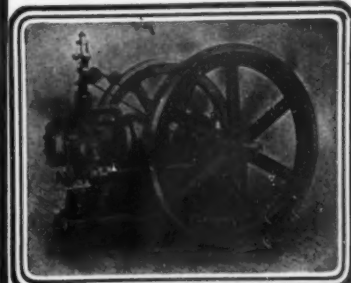
Improved Bates Corliss Engine

FROM 50 TO 1000 HORSE-POWER.

THE ENGINE for Cotton Mills and Large

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Also full line of Engines, Boilers, Iron and  
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THE MURRAY IRON WORKS CO.  
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Incorporated February 1, 1870.

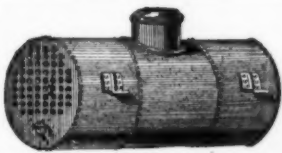
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ENGINES.Tanks, Stacks, Stand Pipes and Sheet Iron  
Work: Shafting, Pulleys, Gearing, Boxes,  
Hangers, etc. Mill Castings.  
Cast every day; work 150 hands.  
Lombard Iron Works & Supply Co.  
AUGUSTA, GEORGIA.GAS AND  
GASOLINE ENGINES.Can use Gas, Gasoline or both, and  
can change from one to the other  
while engine is at full speed. Can  
change point of igniting while en-  
gine is at full speed.Three main crankshaft bearings.  
All parts easily accessible.

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Elyria Engine Company,  
Elyria, Ohio."LITTLE GIANT" STEAM  
OUTFITSwill make you happy. Sizes 1 1/2 to 10 h. p. In use  
several years. Simple, durable and powerful.  
Send for circular and price list.

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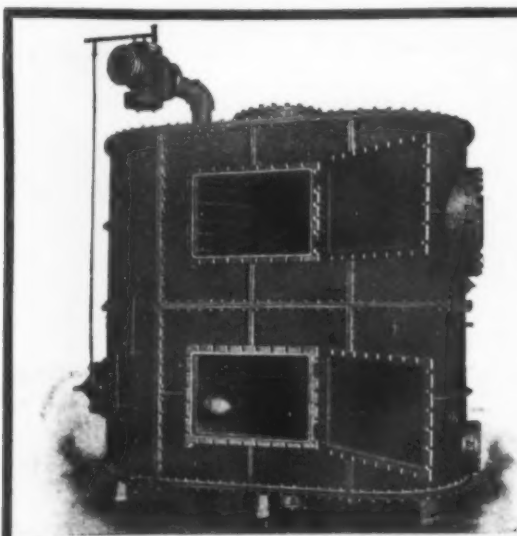


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Boilers, Stand Pipes, Tanks,  
Smoke Stacks, etc., etc.

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THE MEANS & FULTON  
IRON WORKSOFFICE & WORKS 4TH ST. AND 8TH AVE. NORTH, BIRMINGHAM, ALA.  
MANUFACTURERS AND BUILDERS OF BOILERS, TANKS, STAND PIPES AND FLAT FURNACES,  
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This appliance is productive of the greatest possible economy in a steam plant. By its use you can heat six pounds of cold water with one pound of exhaust steam from an initial temperature of say 50° F. right up to the boiling point (or more than nine pounds from 100° F.), and for every 10° thus gained you will save 1% of all the coal used under your boilers; that is, taking water at 50° the saving will be at least 16%, and more likely 19%.

### THE STILWELL HEATER

has other advantages—water economy, improved quality of feed supply, increased steaming capacity, decreased wear and tear on boilers, etc.

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M-40-403 to 425 Keowee St., DAYTON, OHIO, U. S. A.

## BROWN CORLISS ENGINE CO. CORLISS, WISCONSIN.

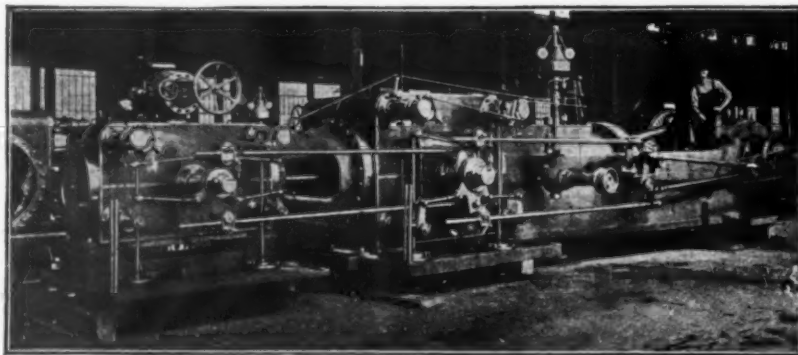
Home Office,  
CORLISS, WIS.

### EASTERN AGENTS:

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Woolston & Brew, New York, N. Y.  
Woolston & Brew, Boston, Mass.  
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1,000 H. P. Tandem Compound.

...Manufacturers of...

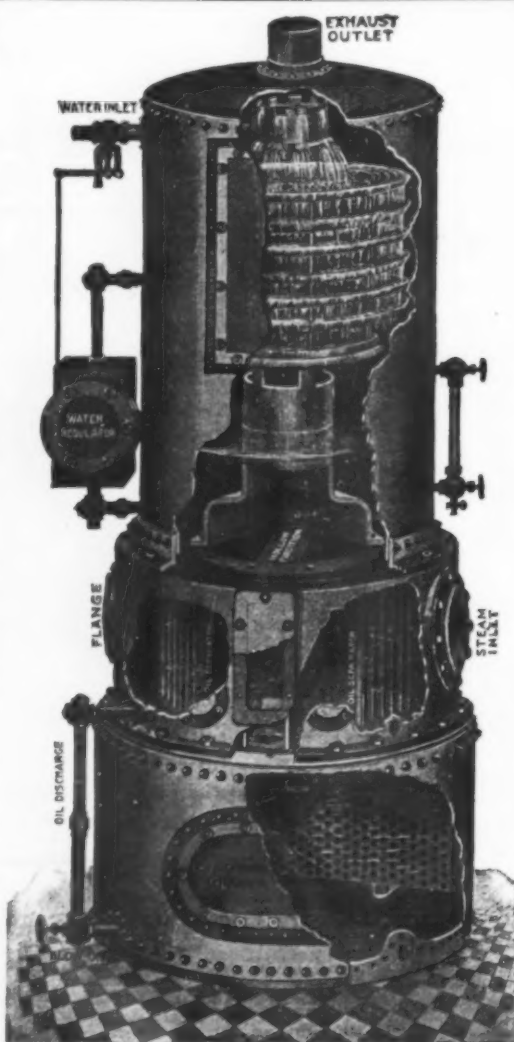
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CORLISS  
ENGINES

Rolling Mill

and

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## SOLD ON ITS MERITS.

### The Cookson Combination Feed Water Heater, Purifier, Filter and Oil Separator.

Maintains constant temperature of the feed water of 206° to 212°.

Heats more water with less steam than any other.

Thoroughly Purifies and Filters the water, passing it to your boilers Pure and Boiling Hot.

The only Heater made separating the oil from the exhaust steam on entering the heater from either exhaust opening; one an oil separator and the other a steam separator, and operating by the steam passing through it in either direction.

Large Filtering Capacity—twice that of the ordinary Heater.

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Built in four styles, A, B, C, and D.

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Our Heater Expert will give you the benefit of his experience.

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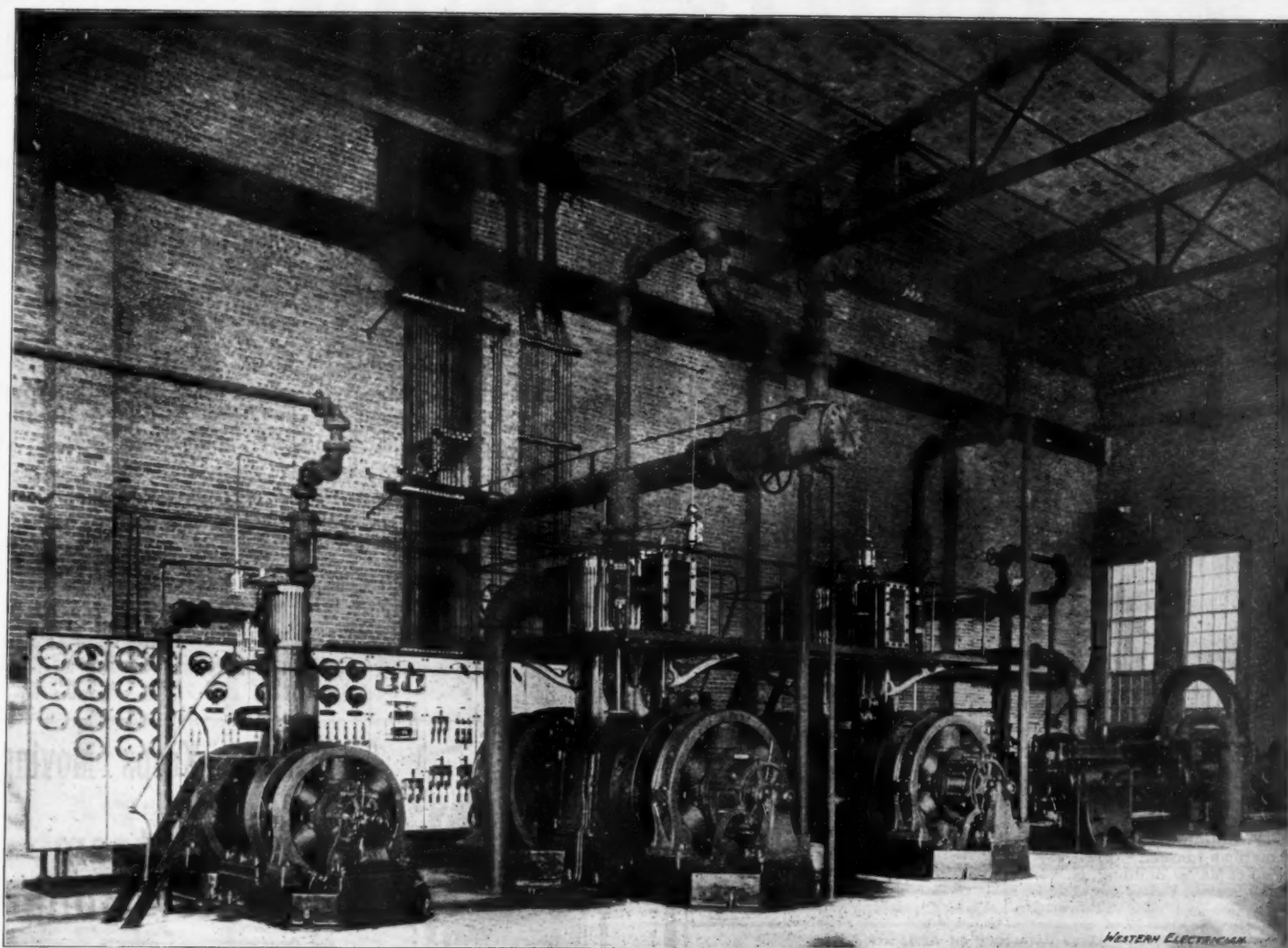
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SOLE MANUFACTURERS.

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SMITH-COURTNEY CO., Agents, Richmond, Va.





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### FEED WATER HEATER AND PURIFIER.

Its PERFECT CIRCULATION of the water gives the highest degree of heat obtainable with the use of exhaust steam.

Provided with N SHAPED SEAMLESS DRAWN BRASS TUBES and so constructed that it CANNOT LEAK under the highest boiler pressure it is possible to carry.

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THE INDICATORS THAT MADE INDICATORS FAMOUS.

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"Tried and tested"

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**THE FAIRBANKS CO.**

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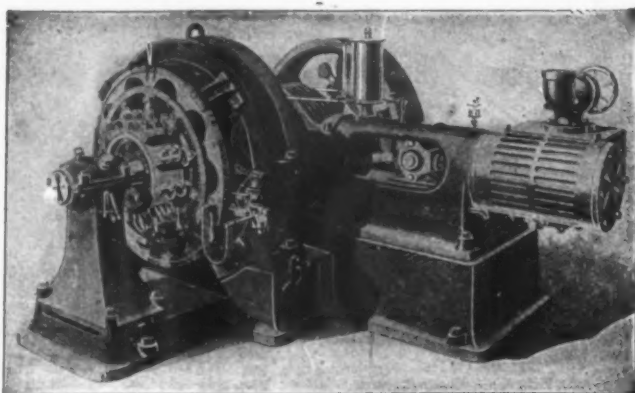
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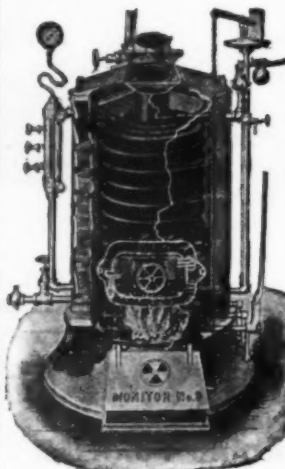
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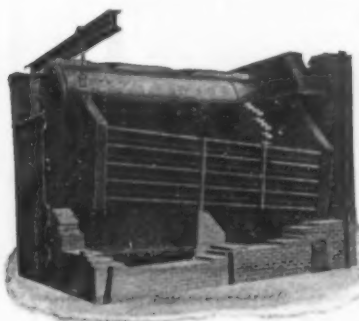
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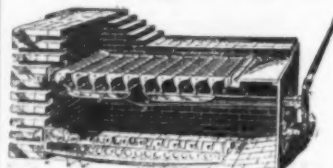
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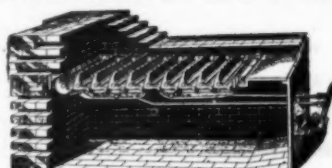
**JOHN T. STONE, President.**

## McCLAVE'S IMPROVED GRATE and ARGAND STEAM BLOWER For BOILER

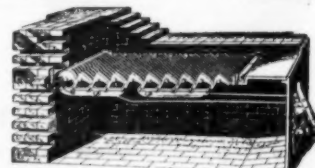
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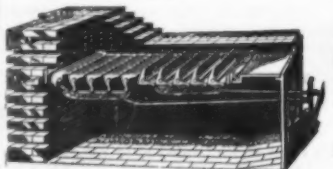
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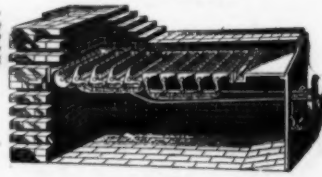
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These appliances together combine more valuable features for burning the smaller sizes of hard and soft coal, such as Anthracite, Culm, Birdseye, Buckwheat and Bituminous Slack than any other system; while the Grate alone stands unequalled for burning the larger sizes of these fuels with natural draught. The Argand Blower gives excellent results in burning Spent Tan, Sawdust, Bagasse, Etc.

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## The National Feed Water Heaters

Save Fuel,  
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AND  
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Delivering Water  
to the Boiler at  
212° F.

Full amount of heating  
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heater.

We Manufacture  
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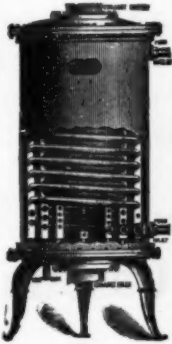
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OF  
Iron, Brass and  
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The finest Rear King Bolt Gear Set ever produced. The strongest of selling points for your line of vehicles. Furnished all wrought or with malleable parts. All made to fit regular gear woods. No special woods required. Guaranteed not to rattle.

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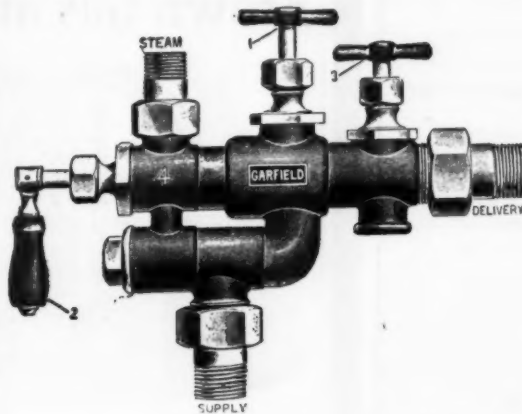
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For All Kinds of Stationary Boilers.

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The Ohio Injector Company,

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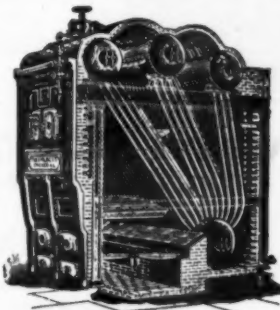
in the equipment of your shop, factory or any place where oilers are used. The special and admirable features of this device place it in a class by itself and above others.

We shall be glad to enlighten you concerning it.

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Four manhole plates, all of which can be removed in a few minutes, give access to the entire interior, and expose every tube, rivet and joint in the boiler.



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**LUNKENHEIMER**  
Steam Traps  
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Engines for Rolling Mills, Electric Railways, Electric Light and Cotton Mills.

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And we are the ONLY MAKERS.

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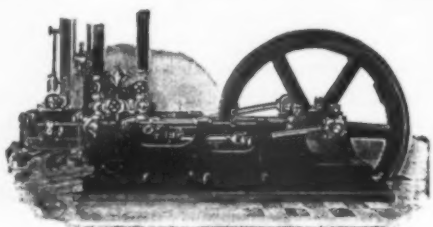
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Our Special Offer—A Sample can of Albany Grease with an Albany Grease Cup free of charge or expense for testing.

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Standard of Quality for  
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Throughout the World.

Especially adapted for installation in connection  
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Correspondence Solicited.

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**A Good Reputation** is hard to acquire and harder to hold. We acquired ours 30 years ago, and have it still in increased measure.

During the past five years we have sold over 490



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Each has a daily average capacity of 50 tons of refrigeration. You can't make any possible mistake if you install York equipment.

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Ice-Making and Refrigerating Machinery and Ammonia Fittings.

## "STERLING"

ICE and REFRIGERATING MACHINERY

Built for any capacity— $\frac{1}{4}$  Ton upwards.

Strongest Guarantee

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Efficiency

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Complete Ice Making and Refrigerating Plants designed and installed.

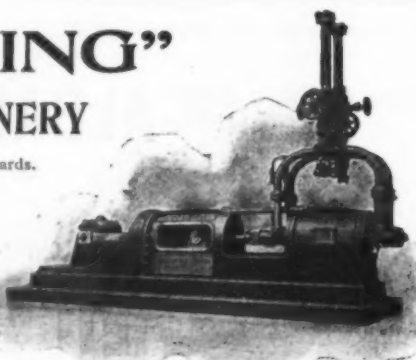
Sterling Machines have special features that make them superior to all others in the most essential points.

Correspondence invited. Information cheerfully and promptly given.

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Capital Stock \$650,000.00

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"STERLING" Double Acting Ammonia Compressor. Direct Connected or Belt Driven.

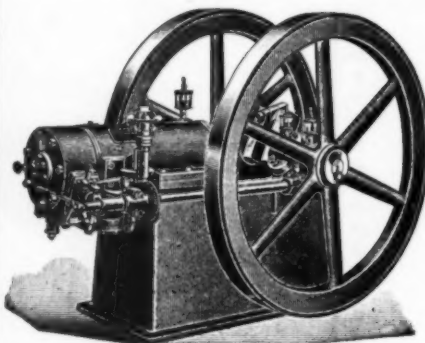
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Besides refrigerating machinery we make the

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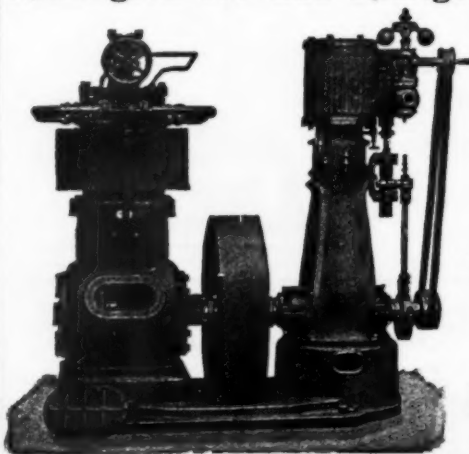


and it is a good one. It drives refrigerating machines just as well as it runs dynamos, printing presses and other machinery. We like to talk about it, and sell it too, and we usually do everything we like with this engine, for several good reasons.

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COMPLETE PLANTS  
INSTALLED AND  
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The REMINGTON Ice Machine is the STANDARD Machine of small capacity. Beware of IMITATIONS, buy the ORIGINAL, it is the best.

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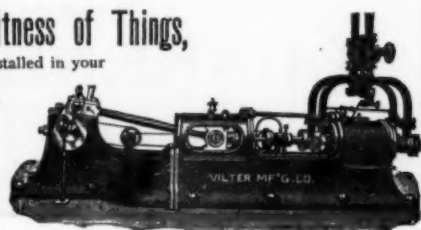
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STEAM AND ELECTRIC HOISTS.

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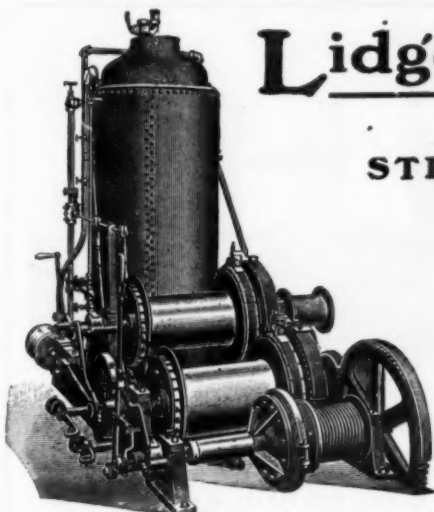
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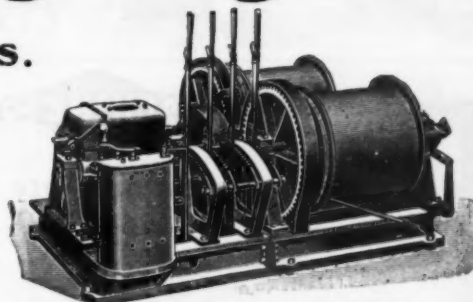
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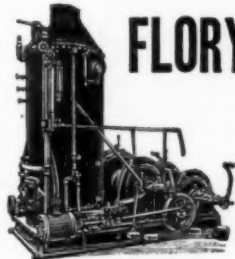
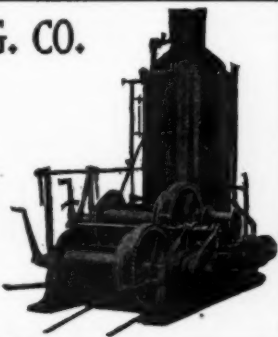
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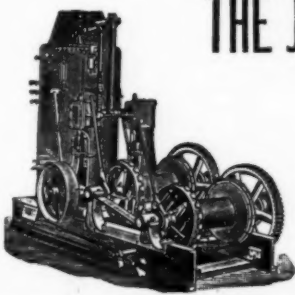
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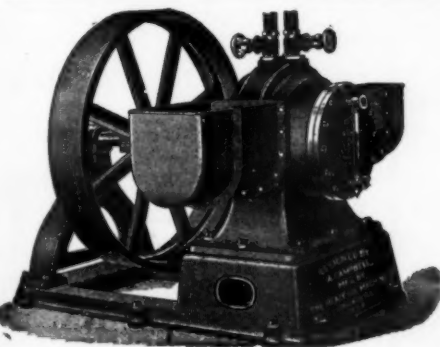
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are Economical and Simple in Operation, built from 1 ton  
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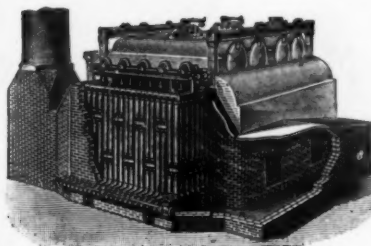
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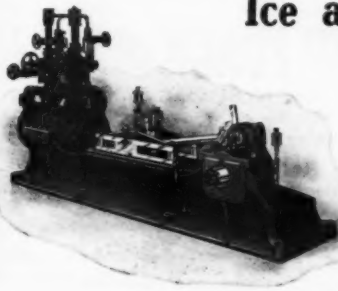
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## Ice and Refrigerating Machinery

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This cut represents the simplest and  
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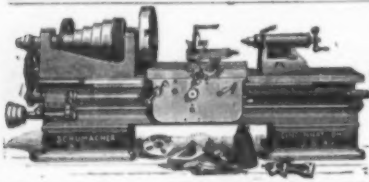
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Condensing, Non-Condensing  
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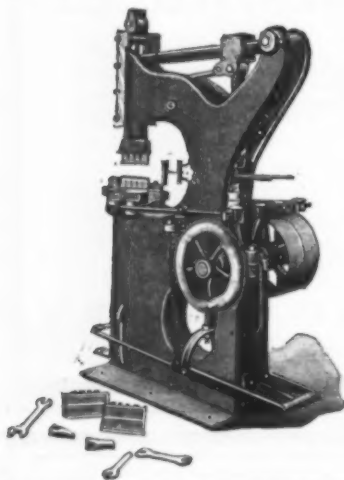
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Cornice Brakes,  
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Foot and Power Curved  
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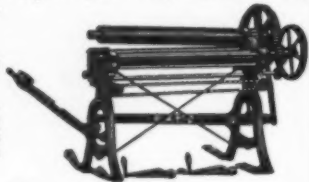


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Also Angle Iron Bending  
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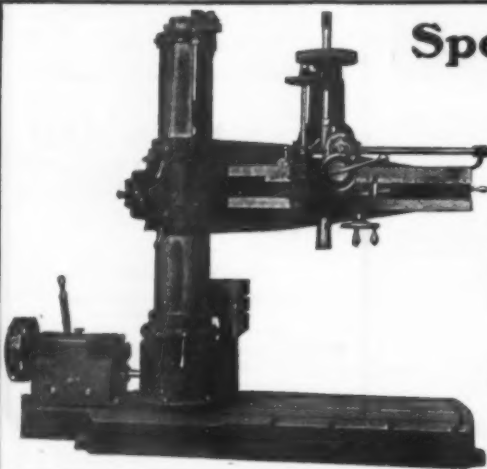
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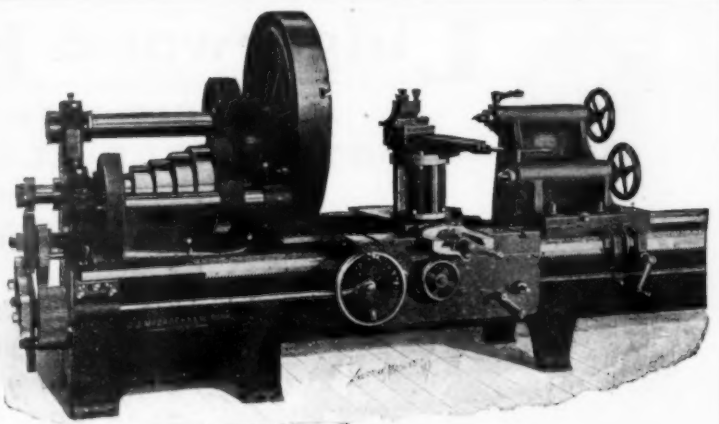


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The speeds are 16 in number, ranging in geometrical progression from 17 to 267 revolutions per minute.  
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Each Speed and Feed can be obtained instantly by a mere shifting of the levers.  
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You Need a Big Lathe,**

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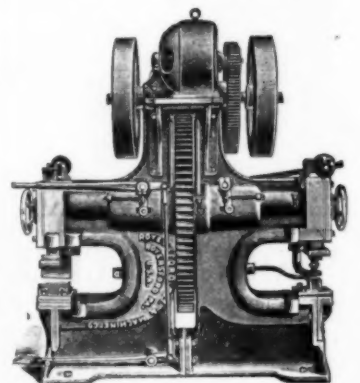
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**Strictly High-Grade  
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with all modern improvements. Great solidity and convenience and ease of operation.

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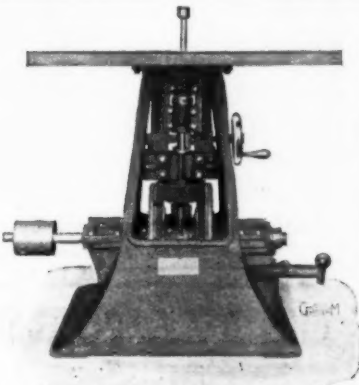




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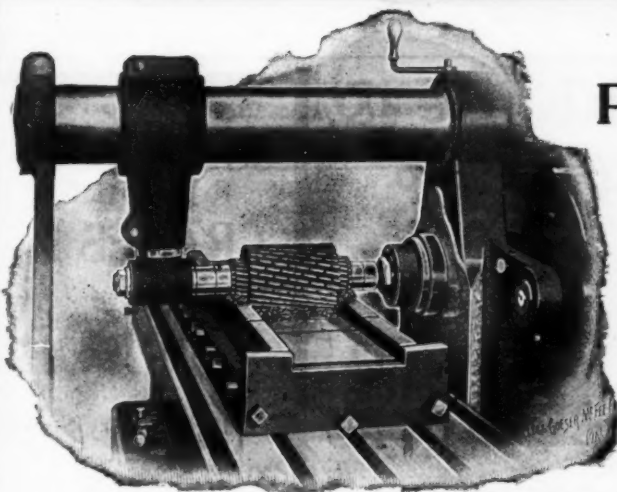
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Single and Double Spindle Shapers, Combination Shaper and Carver, Cutter Heads, Wing Cutters, etc. Designers of Special Machinery.  
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## The Productiveness of Cincinnati Geared-Feed Millers

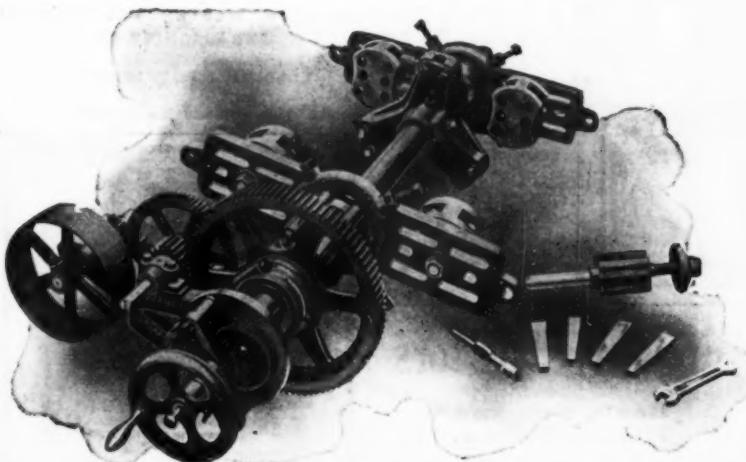
is thoroughly demonstrated by this one operation of finishing cast iron bearing surfaces 7½ in. wide by 15-16 in. deep to gage.

The largest cutter in the gang is 4½ in. diameter, 6 in. face. Cutting speed of 47 feet. The roughing cut takes out about 3-32 in. all around to remove scale at a table travel of 3 in. per minute. Don't you think it requires a powerful feed drive to pull a cut like that and an exceedingly rigid machine to stand such a strain? Both these features are characteristic of Cincinnati Millers. The finishing cut removes about .010 in. all around at a cutting speed of 47 feet and a table travel of nearly 1½ in. per minute. These pieces are 7 in. long; the finished surface is of irregular outline 7½ in. wide by 15-16 in. deep. It takes just 9½ hours to mill a lot of 24 of these castings. Don't you think it would pay you to do some of your work on a "Cincinnati" Miller?

Ask for our Pamphlet Series "D" Examples of Rapid Milling.

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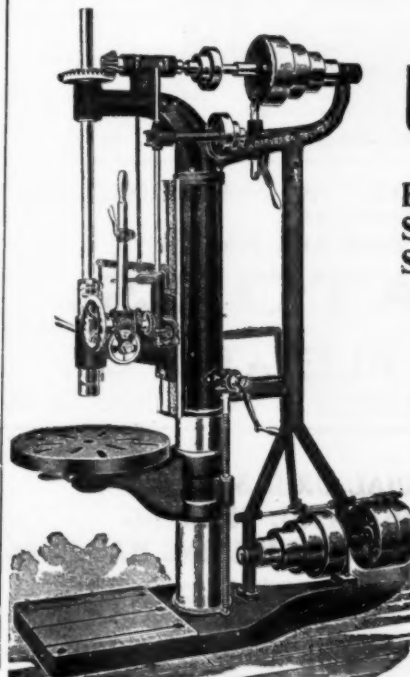
EUROPEAN AGENTS—Schuchardt & Schutte, Berlin, Cologne, Vienna, St. Petersburg, Brussels and Stockholm. Adolph Janssens, Paris. Chas. Churchill & Co., London, Birmingham, Manchester, Newcastle-on-Tyne, Glasgow. The Niles Tool Wks. Co., 39 Victoria St., London, S. W.



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Adapted to general boring. Can be used on Engines, Steam Hammers, Pumps, Air Compressors, etc., while they are in place. Can be arranged to bore in cramped places. Strongly built, efficient and durable. Can be driven by power or hand.

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Bench, Sensitive, Multiple, Series, Stationary and Sliding Head,

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**Economically Handling Raw Materials.**

For economically and expeditiously handling raw materials of any kind—in any form—the "AULTMAN" elevating and conveying machinery stands at the front; because it is built that way. We study problems. We are designing, erecting and installing complete plants. This experience is at the disposal of engineers and prospective customers.

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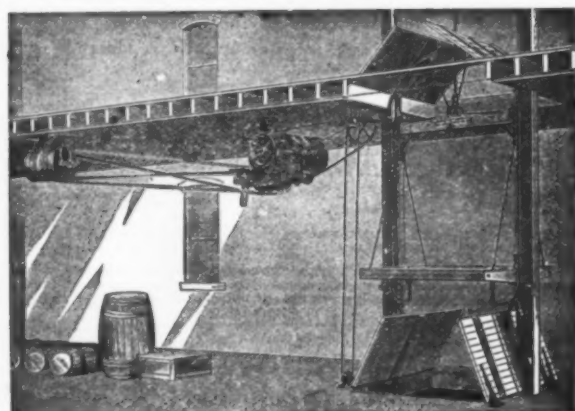
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and  
Freight  
**ELEVATORS**

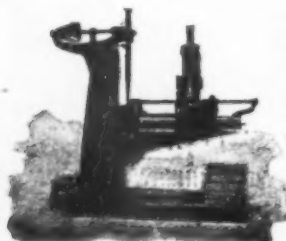
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INDEPENDENT OF  
A TRUST**Belt  
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Elevator**COMPLETE  
WITH OUR NEW  
"BELT-POWER  
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They can be built with any size platform and to lift almost any load. Automatic hatch doors are provided for each floor when desired. Write for Illustrated Catalogue.

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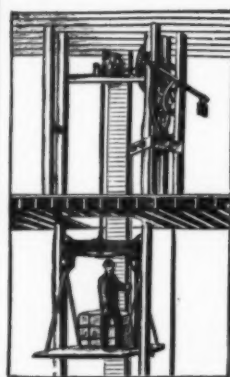
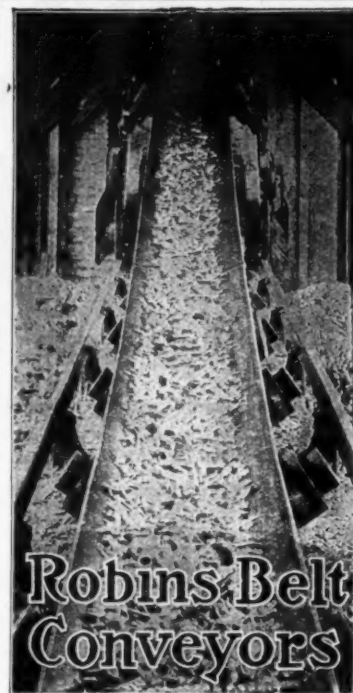
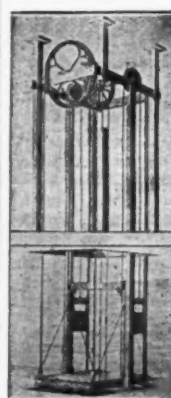
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With every up-to-date feature embodied in their construction.

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Freight Service.

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Louisville, Ky.**FREIGHT  
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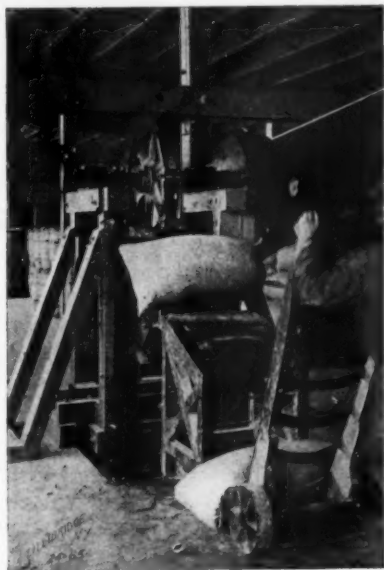
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**THE J. B. WESTBROOKS FOUNDRY  
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General Founders and Machinists.

That name on elevators  
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**FAUNT LE ROY & COMPANY**  
ELEVATOR BUILDERS  
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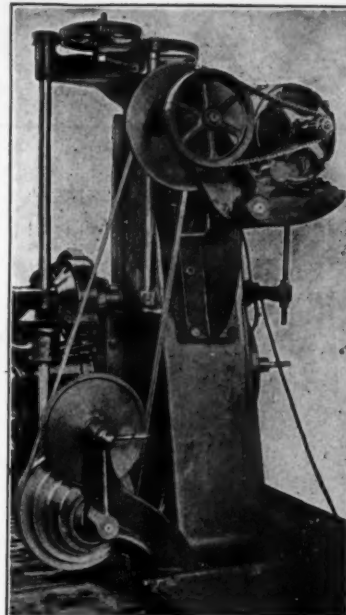


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#### For Manufacturing Plants.

Probably every manufacturing plant has need for Link-Belt Methods in one or more of its departments. We have practically a distinct type for every problem to be solved—sack and barrel elevators (as shown in the illustration), coal and ash handling machinery, conveyors for bulk materials, packages, etc., etc.

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Silent Chain book "E" sent on request.

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## Passenger and Freight.

HYDRAULIC.  
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16,000 SOLD.

BELT.  
HAND.

## MORSE, WILLIAMS & CO.

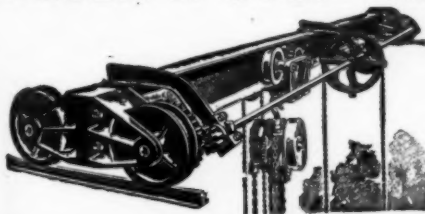
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From a recent purchaser of the Morse Belt Power Freight Elevator operated by reversing motor and controller: "The elevator is working perfectly. We are highly pleased with the elevator and machinery."

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Never even needed attention of any kind for years except occasional oiling.

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TRAMWAYS, TROLLEYS  
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TRAVELLING CRANES**

Stand alone for such records.  
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not only give better service than other makes, but they last longer and require less repairs. They are of superior design, are extra strong and heavy, and each lubricator is tested at 300 pounds pressure to the square inch before it leaves the factory. Catalogue on application.

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Standard of World for Half a Century

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## For Every Service

Hydraulic  
Electric  
Steam  
Belted

Passenger  
or  
Freight

Every  
Method  
of  
Control

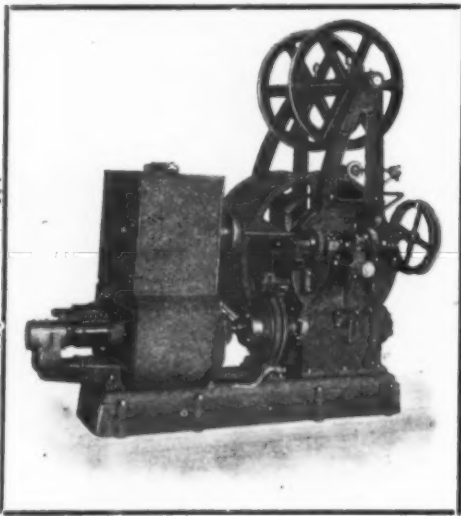
Prospective Purchasers should investigate the superiority of Otis Elevators before making installations.

Correspondence Invited

**Otis Elevator Company** New York Office  
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Branch Offices throughout the Country

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Electric  
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and

Freight  
Elevators.

This is machinery on which human life depends, and in equipping your building you cannot afford to take any chances. Our policy has been: "Be particular in the smallest detail. Do not cheapen production at the expense of the machine." By adhering to this we are enabled to sustain the reputation we have gained.

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For Strength,  
Traction  
Power  
and  
Durability

It is without an equal.

**The "Original Gandy"**  
STITCHED  
COTTON DUCK **BELTING.**

Specially adapted to places where belts are exposed to water, heat, steam, oils, atmospheric changes, etc. Costs about one-half as much as the best leather belt on the market—has greater lasting qualities and will outwear any other make of belt. It is used with the greatest satisfaction as a main driver, conveyor or carrier. Give the Gandy Belt a trial and be convinced of its high merit. Beware of imitations. The real article stamped every ten feet.

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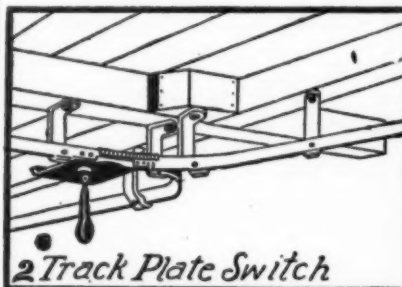
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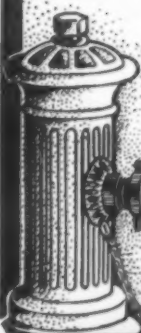
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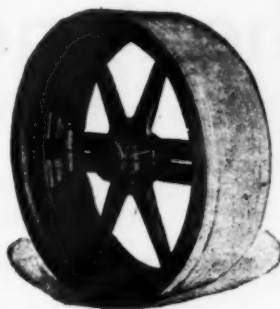
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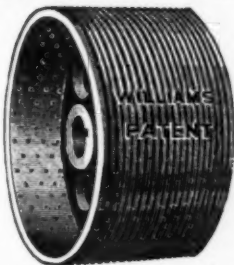
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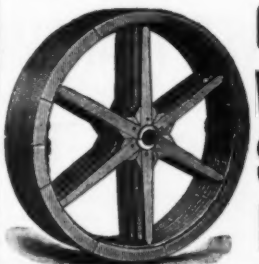
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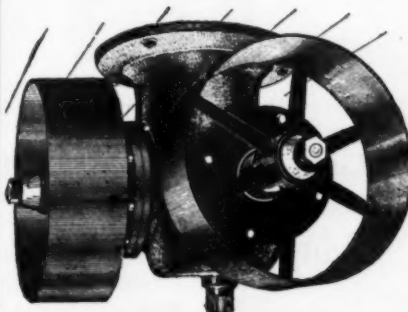
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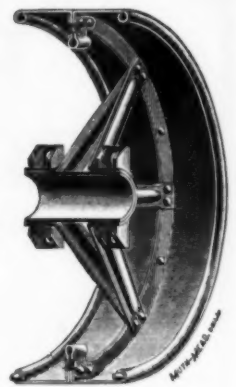
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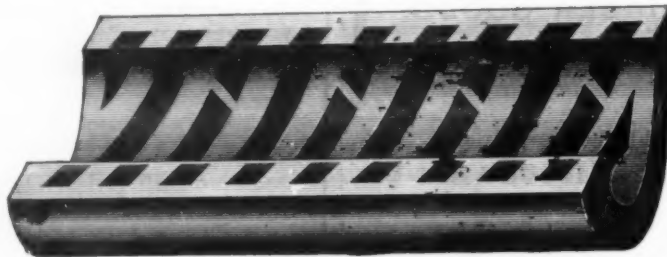
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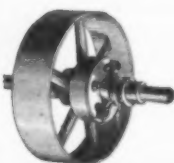
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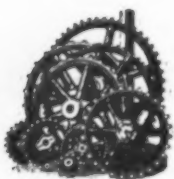
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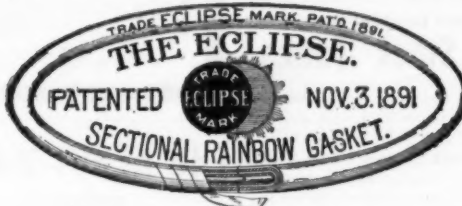


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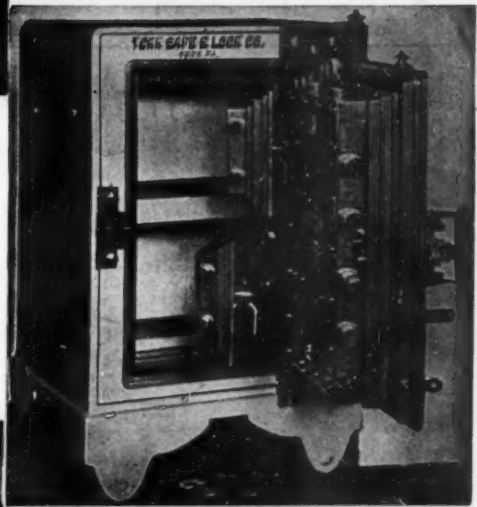
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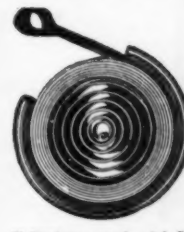
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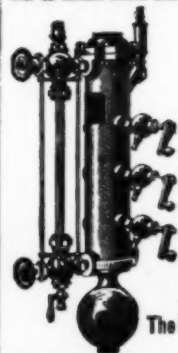


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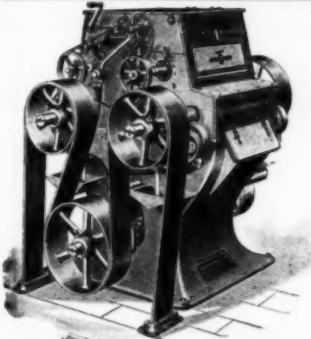
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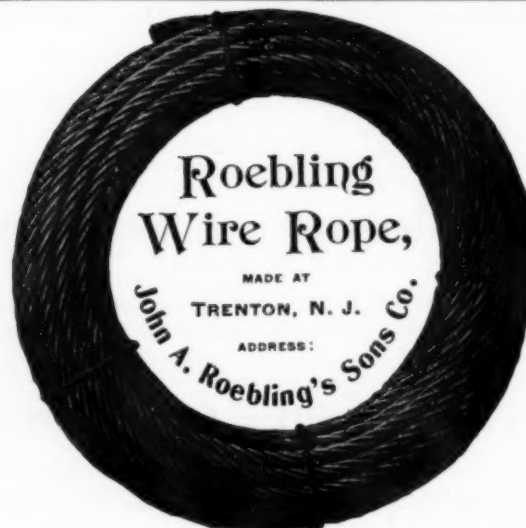
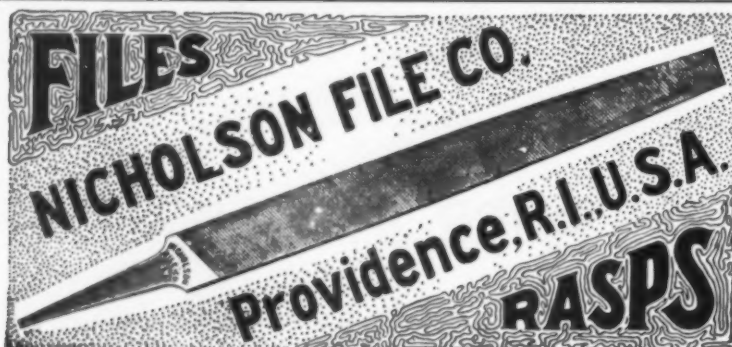
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# MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

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### COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday morning of the week preceding.

**THE DAILY BULLETIN** of the **Manufacturers' Record** is published every business day in the year for the purpose of aiding manufacturers and business men generally who need to keep in daily touch with the new industrial, railroad and financial developments of the South and Southwest. Supplementing and in connection with the work of the **Manufacturers' Record**, it is an invaluable aid to all who are seeking business in the South and Southwest, the most wonderfully endowed section of America, where industrial, railroad and financial activity is creating an ever-widening market for machinery of all kinds, railroad equipment and building supplies, and for financial operations, etc., and where the knowledge and skill of the engineer and expert will find their largest field of operation.

The **Daily Bulletin** is intended simply to cover every day the work of the "Construction Department" of the **Manufacturers' Record** in reporting every new mining, manufacturing, railroad and financial enterprise organized in the South and Southwest, and it is not intended to be a general daily newspaper. To all who want to be advised every day of every new enterprise organized in that section it is invaluable.

### GIVING IMMIGRATION FACTS.

The Rock Island system is introducing some rather novel features into its campaign for immigration in the Southwest. Supplementary to a 60-page pamphlet describing, with illustrations, even to the pleasure of the general reader, the advantages for the homeseeker in the vast territory traversed by the system in Kansas, Oklahoma, Indian Territory, New Mexico and Texas, it is circulating widely a little pamphlet entitled "Men Wanted." This pamphlet, which is issued by Mr. John Sebastian of Chicago, passenger traffic manager, contains an alphabetical list of towns and cities in ten States and three Territories which need men or the industries to employ

men. Figures of the population of each place are given, as well as the kind of man or the kind of industry needed. The pamphlet ought to be an effective aid to workers for immigration in the Southwest, and it might be duplicated profitably in the other parts of the Southern country.

### THE BAR AND TRUSTS.

It is, perhaps, well that the American Bar Association determined to recommit the report of its committee on industrial combinations. One of the members of the committee is reported as stating that the report by recommitment was "technically removed from further consideration of the association," and had then a "merely tentative form." He adds that "the elucidation of the problem can be reached only by a judicial consideration which the bar may be depended on to accord it." Perhaps, or perhaps not, if the following is a correct reflection of the spirit of the committee which framed the report and of the association of lawyers to whom it was presented:

The report says the trust question is the most important question now before the American bar. It says combinations are rapidly driving out of business the small dealer and the small producer. These two classes heretofore have furnished the largest number of petitioners in bankruptcy courts. But now industrial combinations of gigantic magnitude, too large for a bankruptcy court to manage and too rich to need ever to be called before it, have been substituted.

If, be it repeated, that is a fair interpretation of the spirit of the report, it is no wonder that the trust question is such an important question for the American bar. But it may be suggested that that bar, if it approaches endorsement of the idea thus unfolded, will hardly be the proper element to deal with the trust question, in spite of its reputation as a judicially-minded body. The first essential for the solution of any great American problem is the possession of the sense of humor.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 70 and 71.

### LABOR HALTING ITSELF.

Compulsory education, which is fathered by organized labor in this country as one of the means of reducing the number of wage-earners, has been given something of a blow by organized labor in New York city. It is announced that largely because of the strikes in the building trades in that city 78,000 children will be crowded from the schools this year. School Commissioner William Lummis is authority for the statement that 68,340 children had been crowded out of school last year. On January 1 the board of education had contracted to accommodate all but 35,000 of these children and had asked for and received \$8,000,000 to provide school accommodations to meet the natural annual increase of about 25,000 children,

but that the labor troubles had prevented expectations from being realized. Commissioner Samuel M. Dix thought it a scandalous thing that an American workman should think right a course which reacts upon his own offspring and others. The most pronounced movements of labor organizations in this country during recent years seem to indicate that many workmen are unable to think right both about themselves and the general public. Be that as it may, there are communities, notably in the South, which, without labor troubles, have not accommodations for all the children who are willing to go to school, and yet are rushing blindly into the compulsory education scheme.

### BIRMINGHAM DISTRICT SEWERAGE.

When the plans for a trunk sewer system in Jefferson county, Alabama, have been carried out, the sanitary needs of the county for several years will have been met. The plan contemplates a main branch, now in course of construction, extending from the terminus of the Birmingham sewerage system to a purification plant below Bessemer, and running close to communities such as Elyton, West End, Owenton, Fairview, Cleveland, Powderly and Hillman, between Birmingham and Bessemer. The estimated cost of this is \$300,000. Another branch, to be known as the Valley Creek branch, is to extend from East Lake to a purification plant beyond Pratt City, to meet the needs of such places as East Lake, Woodlawn, North Birmingham, Pratt City and Ensley, with intermediate towns as they shall install their own sewerage systems. The two purification plants will be constructed after the sewers have been completed. This is an important project for the steady increase of population in the great industrial community centering at Birmingham. What has been accomplished for Memphis as a result of such provision for sanitation is a matter of notable record, and points directly to the immense benefits to be derived from the completion of the system at New Orleans, costing several million dollars. Greater and greater heed to this matter is being given by Southern communities, many of which have not the advantage of comparatively unobstructed course for sewers possessed by the Jefferson county plan. In a long-settled community the construction of a sewerage system is not only more costly than the construction made to anticipate needs, but there are a host of difficulties to be overcome, even after the people have the readiness to tax themselves for the improvement. There is no more striking instance of this than Baltimore, which, with a population of more than half a million, has an apology for sewerage of which some cities of one-tenth the population would be ashamed. Sewers should not await an increase of population. They should be built as one of the foundations of city growth.

### THE PUBLIC'S ATTITUDE TOWARD CORPORATIONS.

Against the tendency in some of the most progressive States of the country toward greater and greater liberality in the relations of the State to corporations, there persists in some portions of the South where corporate wealth and corporate action are, perhaps, most needed, a spirit manifested, either in practices before the courts or in legislative bodies, antagonistic to corporations. In one place it may be the railroad which is the object of attack; in another it may be the cotton mill or some other industry. In either case the attitude is the same—a determination to subject the corporation to unnecessary expense and to impeding annoyances which would hardly be attempted against the individual. This attitude not only deters other corporations from exerting themselves as freely as they might upon lines that would result in a greater development of natural resources, but frequently places existing ones upon the defence of their very existence. The demagogue and the slyster attorney seem to regard the corporation as their legitimate prey, and careless or misled public opinion permits the preying with impunity.

With other parts of the country practically recognizing in liberal legislation the mistakes which they have made in the past, either through a reactionary conservatism or through unchecked demagogism, it is time for the really conservative, and at the same time progressive, public opinion of the South to quit its mere defensive position and to assume one of positive action for the benefit of the whole community. That action will involve resistance to movements designed to embody in law certain "reforms" that have been discredited by experience elsewhere, and which have benefited nobody but conscious or unwitting demagogues; the clearing from the statute-books of a mass of legislation reflective of no sound public sentiment, but full of the possibilities of danger, and the placing in their stead of laws laid down according to the rule of common sense and tested by successful enforcement in other parts of the country, regard being had always to varying local conditions. To gain these much-to-be-desired ends it may be necessary in some instances to set forth plainly, as was recently done by Major J. F. Hanson of Macon, Ga., elementary truths about the nature of corporations, about their essential importance to the growth of the State, whether they be manufacturing, transporting, commercial or financial corporations, and about the interdependence of all elements in the State for their common prosperity and progress. There are enough men qualified to lead in such a campaign in the South, and enough newspapers to give their views wide publicity and to enforce them with sound opinions of their own. The campaign cannot begin too soon.

## MORE "SOUTHERN EDUCATION."

It is announced that the American Academy of Political and Social Science of Philadelphia has in preparation a special volume dealing with "Educational Problems in the South," to include "contributions from a number of the most prominent Southern leaders in this highly important field," and that, therefore, "the public usefulness of the Academy would be increased by giving a wide circulation to this volume." How and why?

What demonstration has the American Academy of Political and Social Science, which sounds large, ever given of its ability to determine who are the "most prominent Southern leaders in education?" And what possible excuse can it have for meddling with educational problems in the South? On the surface the plan seems to be an outgrowth of a reception held in Philadelphia last January, when the Southern Education Board was on its way home from its annual meeting in New York city. At that reception Dr. L. S. Rowe, president of the American Academy of Political and Social Science, said that it was eminently fitting "that a national organization like the Academy should be brought into close touch with this movement," and Dr. Robert C. Ogden explained things as follows:

The Southern Education Board is an organization for a propaganda, the General Education Board is a board for the administration of money. Each is complementary to the other, and each is a half of a perfect sphere. Each board is largely represented in the other, and thus perfect co-operation is secured. These boards are working in harmony with the Trustees of the Peabody and Slater funds.

The purpose of the General Education Board is to receive and disburse money for educational purposes wherever and however, in its judgment, may seem wise. \* \* \* One of its functions is to act as a permanent clearing-house for educational philanthropy throughout the States in which it operates.

The orator of the evening was Dr. Edwin A. Alderman, president of Tulane University, and in the course of his remarks he indulged in the following:

If the South needs greater average intelligence among the masses, a greater exactitude of thinking among the leaders, a greater industrial efficiency everywhere, a more scientific attitude toward racial and social phenomena, does not the whole Nation stand in need of better manners, of a soberer discipline, of a quieter tone, of more spiritual sturdiness, of less exaltation of hardness and success? The work goes forward for the present in the Southern States because those States are the burden-bearers of this generation, and because in noble self-reliance they have traveled in two decades from picturesque and gracious medievalism to forceful industrial democracy.

If the Nation could not endure half slave and half free, how can it grow part white and part black? How shall a backward race of a divergent ethnic type, and in a different plane of development, become a part of the National life for the National good? That is the negro question.

The energy of the South demands to be free, and shall be free, and you shall help us to be free.

Without questioning the earnestness of these expressions, one may believe that "a greater exactitude of thinking among the leaders" is needed, and therefore that the American Academy of Political and Social Science, which is so "national" that four of its six general officers hail from Philadelphia, three of them from the University of Pennsylvania, may be mistaken grievously in thinking that its usefulness will be increased by circulating the opinions of "most prominent Southern leaders" about Southern educational problems. The talk of Southern medievalism is pitiful, and painful, for folks disinclined to fool with live wires and who know that unnecessary history may be made by a phrase, is the play upon

the baneful sentiment "If the Nation could not endure half slave and half free." So, too, the rhetoric of Dr. Alderman, "We love our self-respect better than gold," while applicable, it is true, to the vast majority of the Southern people and their leaders who are exact in their thinking, loses something of its force when one recalls the unthinking, enthusiastic scramble of a limited number of Southerners into Dr. Ogden's dream of "a permanent clearing-house for educational philanthropy" and views the possibility of the employment of the Southern Education Scheme to cultivate a public sentiment favoring a revival of the project for the "Promotion of Mendicancy" fathered by Senator Blair years ago.

The real energy of the South is not demanding that freedom be given it. It is demanding that it be permitted to enjoy its freedom. It knows that nothing could sap that freedom more thoroughly than the success of the Southern Education Scheme, however sincere and enthusiastic its supporters may be, and in all kindness it suggests that the American Academy of Political and Social Science refrain from inutile interference with Southern educational problems and devote whatever ability and energy its impression that it is national may give it to a study of the portentous educational problems reeking beneath its very nose.

## THE SOUTH'S MECHANICAL ABILITY.

In its justifiable pride in its notable industrial advance during the past quarter of a century, in its laudable efforts by the establishment of textile schools and its encouragement here and there of broader-based technological institutions to provide leaders for greater industrial achievements in the future, the South may be prone to overlook the need of training up its army of mechanics, without which leadership will be in vain. In the early days, before the invention of the cotton gin vastly enlarged the area of cotton-growing, and, consequently, diverted an undue proportion of the workers into agriculture, the mechanical instincts and ability of the South were equal to those of any other part of the country. Necessity and opportunity are permitting those instincts to reassert themselves in the third and fourth generations, but the mechanical ability is not yet equal to the demands which the South is to make upon it. This is strikingly shown, from one point of view, in an article on another page of this issue of the Manufacturers' Record by Mr. George B. Hiss of Charlotte, N. C., formerly president of the Southern Cotton Spinners' Association, now the American Cotton Manufacturers' Association. He has presented, first of all, tables comparing the growth in fifty years of the wage ability of men in groups of Southern, Western, Northern and New England States, which must be read, of course, with the knowledge that methods of obtaining the figures have varied with different censuses, and in connection with those figures, a mass of statistics of the operations of the Patent Office during the past ten years, as a barometer of the mechanical inventive genius of the country. Every one may not agree absolutely with Mr. Hiss in his conclusions, but they will recognize that for the best interests of the South he has made a strong argument in favor of giving greater attention than ever to the training of the young men of the South to mechanical

pursuits and to a cultivation of their faculties of invention.

## MONEY IN PINE STUMPS.

Mr. W. A. Snow of Cordele, Ga., reported recently that the turpentine mills of that vicinity are paying \$2.75 a cord for pine wood and stumps, from which they derive products valued at \$21. Commenting upon this statement a correspondent of the Jacksonville Times-Union says that if Mr. Snow has been reported accurately, farmers in the neighborhood of Hastings, Fla., have been squandering thousands of dollars, inasmuch as during the past five years they have paid from \$10 to \$100 per acre in clearing the pine stumps from nearly 2000 acres of land. He adds that at other points in Florida land is now being cleared on which hundreds of cords of fat pine and stumps are being burned, while men are paid from ten to fifty cents for each stump removed. This seems to suggest that Southern farmers might take time by the roots, as it were, and in clearing their land, instead of burning the pine stumps, which have so long been waste matter, they should cultivate a market for them. Stumps and other debris of the pine seem destined to repeat in a certain sense the history of cottonseed.

## VAGRANCY.

There are indications that the police authorities of Georgia propose to enforce the vagrancy law recently enacted, so as to suppress vagrancy at both ends of the social scale. That is eminently the thing to be done. There is practically no difference between the vagrant supported in idleness and vice by his family and the vagrant supported in idleness and vice by the joint contributions of negro servant girls.

## Cotton Crop of Today.

The September issue of the American Monthly Review of Reviews contains an article by Richard H. Edmonds on the "Cotton Crop of Today." In the article is shown the importance of the cotton crop in Southern agriculture, in American commerce and in world industry. Considerable space is given to a discussion of the range of prices for raw cotton during the nineteenth century, to the changes in the methods of handling the staple on the way to market, to the growth of cotton mills in the Southern States in comparison with the rest of the country and to the relative rank of the United States in cotton-manufacturing. In conclusion Mr. Edmonds says: "In 1900 there were 302,000 hands employed in the cotton mills of this country. On this basis the full utilization in our own mills of the ten and a-half million bales we now produce would furnish employment to nearly a million operatives. For the control of this vast industry, employing a million people, probably \$2,000,000,000 of capital and producing about \$1,500,000,000 a year of finished goods, the South is now beginning to contend. It is a prize worthy the struggle, for it is enough to enrich an empire. Add to the \$500,000,000 or \$550,000,000, the present value of the cotton and seed crop, the \$1,500,000,000 as the value of the finished product and the \$125,000,000 as the present value of the product of cottonseed-oil mills, and the total of about \$2,250,000,000—merely, of course, a rough estimate in round figures—is the dazzling wealth which the South, by natural advantages, has the right to claim and the certainty of eventually winning." The article, which is profusely illustrated, contains a number of statistical tables of

permanent value to students of the cotton industry.

Other special articles are by Lyman Abbott on "The Race Problem in the United States," by Arthur Hawkes on "The Negro in New South Africa," by Clarence H. Poe on "School Libraries in North Carolina," by Frank N. Sanders on "The New Movement for Religious Education," by L. S. Rowe on "The Renomination of President Diaz," by Talcott Williams on "The Conclave and the Pope," a character sketch of the new Pope by William T. Stead, a sketch of the late Frederick W. Holls, a description of a giant traction motor and a suggestive review of Charles Booth's study of life and labor in London.

## Literary Notes.

The papers read at the ninth annual meeting of the Alabama Commercial and Industrial Association have been published in pamphlet form. They include the addresses of the president, Charles P. Lane of Huntsville, and of the secretary and treasurer, L. L. Gilbert of Montgomery, and discussions of "Immigration and Agriculture at the South," by ex-Gov. W. J. Northen of Georgia; "Practical Methods of Advertising Alabama," by M. V. Richards of the land and industrial department of the Southern Railway, and by J. W. White, general immigration agent of the Seaboard Air Line; "Relations of Alabama to the St. Louis World's Fair," by W. K. P. Wilson of Mobile; "Oil Development in Alabama," by State Geologist Eugene A. Smith; "Rivers and Harbors of Alabama," by H. Austell of Mobile; "Relation of Railroads to Business Development," by John B. Smith of Montgomery, president of the Alabama railroad commission; "The Growth of the South," by Congressman William Richardson of Huntsville; "The Practical Development of Alabama's Water Powers," by F. W. Tate of Wetumpka, and reports on advertising by Henry B. Scott of New Decatur and on mining by T. H. Aldrich of Birmingham.

Two articles of more than usual interest appear in the latest issue of the *Sewanee Review*, edited from the University of the South, Sewanee, Tenn. In one W. H. Allen of Brooklyn, N. Y., discussing the subject of trade balances presents a view of recent international finance not generally accepted, but nevertheless worthy of careful reading as an effort to lift the veil which conceals the secrets of world movements of money from everybody except the few masters. In the other Dr. John B. Henneman, the editor of the *Review*, presents a comprehensive sketch of recent developments in American literature, with especial reference to the part played therein by Southern authors. His conclusions are rather questioning than assertive, but they have a breadth of view seldom manifested outside the South. Other articles are by J. L. Bergerhoff on "A Modern Prometheus Drama," by Bernard C. Steiner on "Two Eighteenth Century Missionary Plans," by Barnett Miller on "Thomas Lowell Beddoes," and by A. A. Kern on "A Pioneer in Anglo-Saxon."

## The Price of Portland Cement.

The Manufacturers' Record is in receipt of a letter in which the statement is made by a well-posted authority that there is only about thirty days' supply of Portland cement in the Lehigh valley, and the suggestion is added that Southern cement dealers, who are quoting extremely low prices, will be able to get a better figure than that which is now being offered if they withhold their cement from the market for a time.



# IN THE CEMENT AGE.

By CHARLES CATLETT.

[Written for the Manufacturers' Record.]

It has been customary to call certain periods of the world's history by the name of the principal means by which the inhabitants of that age have been able to advance in wealth and civilization, such as the "Stone Age," the "Bronze Age," the "Iron Age," the "Steel Age." The propriety of the last two designations is recognized by all, while the transfer of the scepter from iron to steel is so recent that we have seen the transformation and are sharing in the patronage of the new dynasty.

The increase in an ever-increasing progression in the demand for iron and steel per capita is almost a mathematical demonstration, and no one doubts that the next ten years must require an enormous increase of output above even the large figures of today, while a reasonable estimate of what may be needed in twenty years, as was discussed in the Manufacturers' Record of June 9, almost staggers belief. When to this increased consumption locally is added the foreign demand the thought naturally arises, where is it all to come from?

We may not be able to fix a definite limit to the ultimate supplies of raw material, but we may say that they are limited and that new supplies are certainly not being discovered comparable in extent and value to those already known. It is almost inevitable that the increased demand of twenty, or even of ten, years hence will be coupled with increased difficulties in the way of production.

What is true of the iron and steel industries is equally true in an aggravated form of the lumber industry. While this is something whose production may be made perpetual by proper forestry methods, it is quite evident that no effectual means will be taken until we are brought face to face with the actual scarcity which is already in plain sight to the more careful observers. Mr. R. L. McCormick, president of the Mississippi Lumbermen's Association, says that the great pinery region of Michigan, Wisconsin and Minnesota originally contained 350,000,000,000 feet. The annual cut reached a high-water mark of more than 8,500,000,000 in 1892, falling to 5,000,000,000 feet in 1902, while he estimates that in ten years that field will disappear as a factor in the trade. What is true of this section is equally true of many other timber sections.

To the difficulty of getting iron, therefore, is to be added a sharp and sudden scarcity of timber. With what will we supplement our needs in this respect, and how can we assist our iron and timber resources to meet the calls made upon them? If we could find something that is generally distributed in very large quantities, that is capable of taking the place of iron and timber in many uses and supplementing them in others, that will give good results with unskillful handling, and with skillful handling will meet the most rigid requirements, the problem would largely be solved. The clay industry will do this in part and will contribute its share, but the industry which is by far the most valuable in this direction is one whose development and growth has been due to modern scientific work. I refer to the Portland cement industry.

Its manufacture and test are getting on a firm basis, so that the product may be depended on, while the necessary but simple rules governing its use are rapidly becoming the common property of everyone. It produces a material with

wonderful properties and meets all the requirements outlined above, and more. Portland cement is put up in a form in which it can be easily handled and which is capable of indefinite subdivision. With reasonable care it can be kept as long as may be desired. It is capable, on proper mixture with a large amount of cheap inert material, universally distributed, of taking the form of any space which it is desired to occupy, and of changing in a short time to a material rock-like in character and resistant to all the forces of decay. In combination with a relatively small amount of iron it is capable, while fully protecting the iron, of being utilized in thin sheets for the formation of roofs, arches, floors, walls, bins, tanks, pipes, etc., all of which are most resistant to decay and to fire than either iron or wood alone. Such properties must develop an enormous demand, even if a market did not exist; but the revolution which is going on in our demands and our capacity for supplying the great staples must make in the next few years a demand for Portland cement the figures of which would now seem incredible. So it appears to me as if the "Steel Age" was being overlapped by the beginning of the "Portland Cement Age."

The following table will show that the growth of the cement industry in this country has been even more rapid than the iron industry. The table is calculated to the short ton to aid the comparison. It is important to consider all kinds of cement, as a portion of the growth in Portland-cement production has been to take the place of the natural increase of natural hydraulic cement and of imported cement.

Production of pig-iron, natural hydraulic cement, Portland cement and slag cement in the United States and the importation of Portland cement in short tons:

	1882.	1892.	1902.
Imports.....	74,000	488,000	457,000
Natural hydraulic cement.....	1,055,000	2,666,666	2,333,333
Slag cement.....	.....	.....	153,800
Portland cement..	17,000	109,000	3,100,000
Pig-iron.....	1,146,000	3,263,666	6,044,133
	5,203,000	10,311,000	19,620,000

It will be seen that the production of cement was greater in 1902 than the entire iron production in 1882. This refers to the cement industry as a whole; but the argument derived from the table is more especially applicable to Portland cement, for without disparaging the use of natural hydraulic cement, it is to Portland cement, with its more exact composition and superior qualities, that we must look for the enormous increase which we may expect in the future. Its production has increased more than twenty-eight fold in ten years, and we are just beginning to appreciate its value and the many uses to which it may be put.

While the localities from which Portland cement can and will be made are so numerous as to warrant our speaking of them as being quite generally distributed, yet there is a best of everything, and for a long time those points which combine in a high degree large quantities of high-grade raw material, an abundant supply of the right sort of fuel at a reasonable cost, and which are well located for distributing the finished product, will supply the demand, and anyone who has had occasion to look for such points will realize that they are by no means common. The large cost of a cement plant makes it necessary that the utmost care and a

great deal of detailed investigation should be undertaken before its erection is warranted, and the result is a tendency for new plants to develop at points where others have proven successful. At least 60 per cent. of the Portland cement made in this country comes from a comparatively restricted area in the Lehigh valley of Pennsylvania. There is no reason why this should continue to be the case. There are numerous points, particularly in the South, where the juxtaposition of suitable raw material presents exceptional opportunities for the development of the industry, and Virginia and Alabama have already made gratifying progress in this direction.

The United States Geological Survey has undertaken an investigation of the resources of the country in this particular. Such an investigation must necessarily be general in its character and limited in detail, but it is certain that any reliable information furnished on the subject will be utilized, and that those sec-

tions about which full and accurate information is given will share in the development which must come from the wide distribution secured for the government publications. It behooves, therefore, the individuals as well as the States of the South to see to it that the fullest and most accurate information available should be promptly secured and placed at the disposal of the survey. If this is done much good must flow from the effort.

It is not possible in an article of this sort to discuss any of the technical features of the industry or to point out those localities in the South which, from the general geological conditions, may be expected to develop into centers of this industry. Parties who are seeking general information as to the present development of the cement industry, the arrangement of plants, etc., will find the "Cement Industry," by F. H. Lewis, published by the Engineering Record, New York, N. Y., of much interest. Staunton, Va.

## EUROPEAN TEXTILE CONDITIONS.

[Special Correspondence Manufacturers' Record.]

Isle of Wight, England,

August 21, 1903.

Having traveled for several weeks on the Continent, visiting the important centers of the cotton trade in Germany, France and Belgium, and having sought information from the best sources, a brief resume of my impressions may possibly be of interest to some of the readers of the Manufacturers' Record.

The cotton manufacturers of the countries named have done a fairly active business during the past season, but, taking them as a whole, have made very little money. Considerably more cotton has been spun into yarns than the previous season, but often at a very small profit and sometimes at a loss. The spinners who bought freely during October, November and December, when prices were on the basis of 4½ to 4¾ pence for middling uplands, have had a remunerative season, while those who bought at prices ranging from 5¼ pence to nearly 7 pence have made no profits, and those who sold their product ahead on the basis of lower-priced cotton (as many did) have scored serious losses. As a result of the high price of cotton many of the continental mills have not worked on full time since early in June, but "short time" has not prevailed to anything like the same extent as in England, most of the mills having been run five to five and one-half days in the week, against four days in the week in many of the British mills. German spinners are in far better shape than a year ago, as the large stocks of yarns and goods then existing have been disposed of, and the depression resulting from such a condition has been removed. While their stocks of cotton are quite moderate, I think they are larger than at this time last year. Many of the French spinners bought cotton freely in the early part of the season and have done well. Those who bought sparingly in the hope of still lower prices have paid the penalty for their conservatism. Some of the French spinners have cotton sufficient for their requirements to the middle of October, while others have practically no stocks and are buying, as it were, from "hand to mouth." My impression is that the stock of cotton held by the French spinners is less than a year ago. In Belgium much the same conditions exist as in France, but I think the spinners hold about as much cotton as at this time last year. The French spinners have, on the average, done better than those of Germany and Belgium. The spindle capacity

of the three countries differs but little from last year. In Italy there has been an increase of about 1,200,000 spindles, but there will not be a corresponding increase in the consumption of cotton. It has been the custom in Italy for the mills to be regularly operated at night, there being operatives for the night work in addition to those for the daytime. A new law will soon go into effect prohibiting the night work, and this has caused the erection of additional spindles to enable the mills to do the same amount of work in the day which was formerly done during the day and night. This explanation is made because an increase of spindles usually indicates larger business and greater prosperity. In point of fact, the Italian spinners have been doing only a very moderate business.

In consequence of the high prices which have been ruling in the United States considerable cotton has been shipped from Europe to New York and New Orleans since July 1. Shipments have been made from Liverpool, Havre, Bremen, Trieste and perhaps from other ports. About 5000 bales are now on the way from Bremen. In previous years some cotton has been sent from Europe to the United States, but never to anything like the extent of the shipments of this year. These shipments emphasize the artificiality of the prices which have been ruling in the United States for several months as a result of speculative manipulation in New Orleans and New York. The price of American cotton for many weeks has borne no relation to the price of cotton yarns and goods. In this connection I will mention that European spinners have used a great deal of East Indian cotton in place of American cotton, and in some instances at a saving of fully a cent a pound for similar grades of cotton.

The high prices for American cotton will stimulate the production of cotton in every part of the world where it can be grown to advantage and will surely induce more careful cultivation and preparation of the India crop. The world needs a good-sized yield of American cotton from the crop now growing, but a large crop now (which is quite possible), if followed by another large crop, would probably cause a decline to unremunerative prices.

Rains have been very excessive in England for the past month, and if the damage to the crops proves as serious as some people anticipate it will likely injure gen-

eral business to some extent. There has also been a great deal of rain on the Continent. It is as cool today as October in New York and yesterday was like November, but the Isle of Wight is a charming country. ALFRED B. SHEPPERSON.

### FOR SOUTHERN MATTING.

Mr. Stuart Kuykendall's Arguments for the Industry.

In a second letter to the Charlotte Observer regarding the possibilities in North Carolina for the manufacture of matting from rushes now growing wild, Mr. J. Stuart Kuykendall of Greensboro, N. C., writes:

"Why should North Carolina manufacture this article? Because her natural advantages are such that she cannot afford not to do so. On her soil is now growing wild and going to waste each year enough raw material in this 'rush' to supply the entire demand of the United States, or rather the quantity used, which is less than the present demands, as China and Japan have not been able to fill the orders received from this country. And while the United States used more than \$9,000,000 worth of imported matting last year, a number of orders sent abroad were never filled, and, as a result, the exact amount used in this country cannot be estimated. The actual importations of the year ended 1902 exceed those of the previous year to the extent of several million dollars. The present demand of the United States is sufficient to use all the matting which could be manufactured by twenty-five factories, with 100 looms, running to their full capacity 312 days in the year, producing daily 5000 yards, which would give employment to more than 3000 employees in the factories and 2000 in the cultivation and harvesting the rush. Those employed in the factory would receive seventy-five cents to \$2 per day for their services, or a daily average of about \$1.37½, thus making a yearly pay-roll aggregating \$250,000, which at the present rate of increasing demand will largely exceed this sum in the near future.

"With the proper care the lands now absolutely valueless (as far as productiveness may be taken into consideration) will become a means of creating a profitable revenue, and the land now valued at from fifty cents to \$1 per acre will be made to produce about two tons of the quality necessary for use in the manufacture of matting. Two tons of rush will make about ninety-five rolls of matting containing forty yards each, or 3800 yards, the average market value of which is about 14½ cents per yard, or \$551, the commercial value of the product of one acre of ground.

"The average cost of cultivating and growing the rush, omitting the cost of installing the necessary system of irrigation and including the harvesting, bleaching and drying processes of the rush, the cotton warp used and the cost of the warp, the weaving, marketing and other necessary incidentals all combined, will not exceed \$225. Thus we see a profit of \$226 per acre, or a daily profit of \$280 for each 100 looms if run to their full capacity and producing 5000 yards.

"The above figures are based upon the cost of production and marketing this matting from American raw material and woven by the new loom now in operation and driven by electric power. These are important factors in favor of the successful promotion of this enterprise, though the greatest insurer of profit to the American manufacturer is the duty and high tariff on imported mattings, which it will be necessary to maintain for the protection of the carpet manufacturers in this country in making the cheap grades."

## THE SOUTH FROM A MECHANICAL STANDPOINT

By GEORGE B. HISS of Charlotte, N. C., Late President of the Southern Cotton Spinners' Association.

Especially during the past ten years has attention been directed to industrial development in the Southern States. While this development has been somewhat general in its character, it has been largely confined to the manufacture of cotton textiles, iron, steel, cottonseed products and the low to medium grades of household furniture, and in each of these several industries we have occupied largely the position of copiest rather than originator of ideas. Conditions and circumstances have compelled us to keep within the boundaries of our limited mechanical knowledge, but we will doubtless be granted the credit of having thus far succeeded well in our industrial ventures. Gradually we will come to realize the necessity for invention, and the sooner we strengthen ourselves in our deficiencies the better will appear our chance for industrial success, now so weak as to the average of mechanical knowledge as compared with other sections of our country.

Gen. U. S. Grant, while in China on his trip around the world, inquired of Li Hung Chang why the Chinese as a nation did not acquire the progressive modern ideas of the western countries. The wise old man of the East replied, in effect, that when the people of China undertook the cultivation of modern progressive ideas they would soon prove themselves capable of outstripping the rest of the world. Without attempting to appear optimistic, there are many broad-minded and deep-thinking people who believe Li Hung Chang's idea of the Chinese is applicable to the industrial position of the people of our Southern States.

Considering the low average of their mechanical knowledge, the Southern States have made considerable progress in industrial affairs, but those States which have accomplished the greatest industrial progress are still a long, long way behind some of their other sister industrial States in their average of mechanical knowledge.

The Southern States have the unearned reputation of paying low wages, but an impartial investigation will doubtless bear out the statement that the average wage paid is as high as that paid in any other section, when the average of mechanical knowledge is taken into consideration. And the low average of mechanical knowledge is, in a great measure, responsible for the apparent low average wage in the Southern States.

Nothing is more foreign to the mind of the writer than to attempt to cast the slightest reflection upon the well-trained polytechnically-educated or apprenticed mechanic of our Southern States, as there are, in limited numbers, as well-trained native-born mechanics in the Southern States as can be produced elsewhere. But it is a notorious fact that there are a number of so-called mechanics who, while posing as mechanics, never served an apprenticeship, but are counted to make up the general average of mechanical knowledge, and, owing to the fact that there is such a limited number of well-trained practical mechanics, the average wage paid in the Southern States would appear small as compared with other States.

Those who have not given this subject very much study, but have taken the optimistic view that the outlook for Southern industrial success is assured, and all that is necessary to be done will be to await the elapse of time, shall

doubtless have occasion to change their ideas if they will compare the earning capacity of the men, women and children engaged in the various manufacturing industries in the various States of our country, as taken from the United States census reports for the years 1850 and 1900, and which are reproduced in the following tables:

Table Showing the Average Wage Increase in Fifty Years in the Several States.

SOUTHERN STATES.				
	Average No. employees.	Annual wages paid.	Annual average wage.	Average wage increase in fifty years.
Alabama, 1850.....	4,326	\$1,105,824	\$254	
1900.....	52,902	15,130,419	286	\$62
Arkansas, 1850.....	842	159,876	189	
1900.....	26,591	8,686,291	327	138
Florida, 1850.....	991	199,452	201	
1900.....	34,230	10,683,038	312	111
Georgia, 1850.....	8,368	1,709,664	204	
1900.....	83,842	20,230,071	242	38
Kentucky, 1850.....	21,476	5,106,048	237	
1900.....	62,962	22,434,185	356	119
Louisiana, 1850.....	6,217	2,033,928	326	
1900.....	42,210	15,385,715	364	28
Maryland, 1850.....	30,212	7,403,832	245	
1900.....	108,325	38,748,551	357	112
Mississippi, 1850.....	3,154	771,528	244	
1900.....	26,418	7,471,886	282	38
North Carolina, 1850.....	14,691	2,383,436	163	
1900.....	70,570	13,988,430	196	33
South Carolina, 1850.....	7,066	1,127,712	159	
1900.....	48,125	9,455,900	196	37
Tennessee, 1850.....	12,029	2,247,432	186	
1900.....	50,504	16,647,638	314	128
Texas, 1850.....	1,066	322,368	302	
1900.....	48,153	20,552,355	426	124
Virginia, 1850.....	29,110	5,434,476	186	
1900.....	72,702	22,445,720	308	122
West Virginia, 1850.....	11,672	4,322,164	370	
1900.....	33,272	12,969,237	389	19
Grand total, 1850.....	151,750	\$34,327,820	\$226	
1900.....	769,726	234,769,436	309	\$83
Number of States, 14.				
WESTERN STATES.				
	Average No. employees.	Annual wages paid.	Annual average wage.	Average wage increase in fifty years.
Illinois, 1850.....	11,559	\$3,204,336	\$277	
1900.....	395,110	191,510,562	485	\$208
Iowa, 1850.....	1,707	473,016	277	
1900.....	58,553	23,331,680	409	132
Kansas, 1850.....	1,735	880,346	507	
1900.....	35,163	16,317,839	463	L. 44
Michigan, 1850.....	9,344	2,717,124	290	
1900.....	162,355	66,467,867	409	119
Minnesota, 1850.....	63	18,540	294	
1900.....	77,234	25,484,825	459	165
Missouri, 1850.....	15,808	4,632,648	297	
1900.....	134,975	60,719,428	449	152
Nebraska, 1850.....	336	105,322	313	
1900.....	24,461	11,570,698	473	160
Ohio, 1850.....	51,491	13,467,156	261	
1900.....	345,839	153,955,330	445	184
Wisconsin, 1850.....	6,089	1,712,496	281	
1900.....	142,076	58,407,597	411	130
Grand total, 1850.....	98,132	\$27,270,994	\$278	
1900.....	1,375,836	618,395,966	449	\$171
Number of States, 9.				
NORTHERN STATES.				
	Average No. employees.	Annual wages paid.	Annual average wage.	Average wage increase in fifty years.
Connecticut, 1850.....	50,731	\$12,433,384	\$244	
1900.....	176,694	82,767,725	468	\$224
Delaware, 1850.....	3,888	936,524	240	
1900.....	22,303	9,259,661	417	177
Maine, 1850.....	28,020	7,485,588	267	
1900.....	74,816	28,527,849	381	114
Massachusetts, 1850.....	177,461	41,954,736	236	
1900.....	497,448	228,240,442	458	222
New Hampshire, 1850.....	27,092	6,123,876	226	
1900.....	70,419	27,620,247	392	166
New Jersey, 1850.....	37,830	9,364,740	247	
1900.....	241,582	110,088,065	455	208
New York, 1850.....	199,249	49,131,090	246	
1900.....	849,056	408,835,652	481	233
Pennsylvania, 1850.....	146,766	37,163,232	253	
1900.....	723,824	332,072,670	452	199
Rhode Island, 1850.....	20,267	5,047,080	240	
1900.....	98,813	41,114,084	416	176
Vermont, 1850.....	8,445	2,202,348	260	
1900.....	29,455	12,237,684	412	152
Grand total, 1850.....	700,549	\$171,845,598	\$245	
1900.....	2,794,210	1,280,784,619	458	\$213
Number of States, 10.				

It will be noticed that these three tables represent three groups of States, viz.: the Southern, Western, Northern and New England States, and while the States grouped as the Southern States have been largely engaged in agricultural pursuits and suffered the disastrous results of a war of devastation, they have all shown wonderful recuperative possibilities, and, as previously stated, are accorded great credit for the determined spirit displayed by their citizens. But any friendly disposition to point out the way by which still greater worlds may be conquered will doubtless be gladly welcomed by every citizen of the so-called Southern States. Consequently, in making these comparisons it will be kindly

understood that they are for no other purpose than to set before our people the fact that we are weak mechanically, and, if it is intended, and the writer believes it is, that the Southern States shall prosper within the next fifty years, so as to compare more favorably with the wonderful industrial progress made by the Northern and New England States and those of the Western States, as shown in the above statistics, men of the Southern States of this generation should foster every possible means of instilling into the minds of the youth of our section the wonderful advantages to be gained by

increasing our average of mechanical knowledge.

The United States Patent Office is an excellent barometer of the mechanical inventive genius of the country. The reports of the commissioners of patents for the past ten years show that 215,257 mechanical patents and designs have been issued to the people of this country, and of this total number 103,517 were issued to the citizens of the Northern and New England States, 68,938 were issued to the citizens of the Western States, while only 15,714 were issued to the citizens of the Southern States, and 28,048 were scattered among the various other States and Territories of this country. The little State of Connecticut stands at the head



of the list at the Patent Office, as it will be noticed by the tables which accompany this article an average of one patent to about every 1000 of its citizens has been issued during the past ten years, and it is well known that this State possesses a very high average of mechanical knowledge, and consequently the necessary inspiration for inventive genius. It will be further observed that the citizens of the single State of Ohio—a Western State—had nearly as many patents issued to them as were issued to the citizens of all the Southern States combined. It is true Illinois, another Western State, has had more patents issued to her citizens, but not so many in proportion to her population, and again, the States of New York and Pennsylvania might be cited as occupying similar positions, but both of the last-named States have for many years ranked very high in their average of mechanical knowledge. Of the Southern States, Maryland possesses the highest average of mechanical knowledge, and while the citizens of this State have not had as many patents issued to them as issued to the citizens of the State of Texas, it will be observed, by reference to these tables, that while Maryland received one patent for an average of about every 4000 of her citizens, the State of Texas only received one for an average of every 7500. The lowest average of mechanical knowledge in the South, judging by these statistics, is in the State of South Carolina, which has averaged during the past ten years only one patent to about every 26,000 of her inhabitants. By reference to these tables it will be readily noticed that those States which are known to be high in their average of mechanical knowledge are well represented by the number of patents which have been issued to the inhabitants of those States, and those which are the lowest in their average of mechanical knowledge have had the smallest number of patents issued to the inhabitants of their States. Are not these statistics, therefore, the best of evidence that "mechanical instinct acts as an inspiration to inventive genius?"

It will be observed that the greater the percentage of practical mechanics in a country, the greater the diversity of manufacturing interests, and the higher the average wage paid those employed in connection with such manufacturing interests. The mechanical ingenuity necessary for the diversity of manufacturing interests gives us more of our own notions to sell and the less of other people's to buy.

Fertile minds susceptible of the highest mechanical drilling have their being by the tens of thousands among the young men of the South, but former existing class distinctions between the professionally and the mechanically trained young men have caused many young men who were unable to secure a professional education to secure a small-salaried clerical position rather than suffer the imagined ostracism of the well-trained and well-paid mechanic.

Polytechnically-educated young men with a theoretical training may be said to aid in the advancement of mechanical ideas, as young men thus trained ordinarily possess better educational foundations than the average apprenticed mechanic. But the apprenticed mechanic with a practical training is absolutely necessary to achieve industrial success in any State, Territory or country. If we were going to produce wool in the South we would certainly raise our own sheep.

The young man who is equipped with a mechanical training possesses an inexhaustible and indestructible source of revenue so long as life and health may

last, and it is in this field thousands of the young men of the South may find their brightest, most independent and most remunerative careers.

That the present mechanical situation is appreciated by a few cannot be denied, as we see the sons of some of the most learned men of our Southern States

taking advantage of the great opportunity offered to those with mechanically-trained minds; but instead of the few, we need now, and will need for all time to come, not only thousands, but hundreds of thousands of bright well-trained mechanics to perfect our road to industrial success.

Table Showing the Number of Patents and Designs Issued in Comparison With the Population of the Several States.

NORTHERN STATES.													
Conn.	Del.	Maine.	Mass.	N. H.	N. J.	N. Y.	Penna.	R. I.	Vt.				
Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	
One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	
1893.. 764 976	30 5616	133 4970	2,014 1111	113 3332	1,092 1442	3,630 1652	2,253 2333	224 1542	71 4682				
1894.. 751 963	33 5105	104 6356	1,676 1335	93 4048	928 1557	3,329 1801	1,904 2761	197 1753	78 4291				
1895.. 905 927	34 4355	129 5124	1,792 1248	120 3137	892 1619	3,539 1684	2,270 2316	226 1528	74 4492				
1896.. 983 759	49 3438	130 5085	1,901 1777	109 3454	904 1453	3,882 1545	2,319 2267	249 1383	91 3632				
1897.. 949 786	33 5105	138 4790	1,897 1180	105 3586	1,049 1377	3,783 1585	2,464 2133	243 1421	70 4748				
1898.. 799 933	45 3744	118 5692	1,567 1428	100 3705	906 1594	3,285 1825	2,172 2420	218 1584	59 5634				
1899.. 789 945	42 4011	149 4436	1,774 1262	122 3086	993 1455	3,798 1579	2,355 2232	272 1270	83 4005				
1900.. 755 1293	30 6157	134 5182	1,745 1607	107 3846	1,020 1846	3,788 1918	2,564 2457	264 1623	69 4980				
1901.. 758 1198	56 3298	155 4480	1,905 1472	109 3776	1,198 1572	4,098 1773	2,837 2221	271 1581	73 4707				
1902.. 732 1240	43 4296	138 5032	1,949 1439	94 4378	1,173 1605	4,120 1764	2,792 2357	275 1558	71 4840				
8085	395	1328	18,221	1072	10,155	37,153	23,930	2439	739				
Grand total of patents issued in all States.....											103,517		
WESTERN STATES.													
Illinois.	Iowa.	Kans.	Mich.	Minn.	Mo.	Neb.	Ohio.	Wis.					
Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	
One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	
1893.. 2,092 1911	402 4755	236 6047	782 2677	359 3636	773 3465	191 5544	1,568 2342	560 2012					
1894.. 1,632 2244	334 5724	194 7356	750 2791	316 4119	728 3690	161 6477	1,402 2619	413 4084					
1895.. 1,876 2039	392 4877	206 6927	768 2726	300 4339	704 3905	151 7012	1,423 2580	495 3407					
1896.. 2,041 1874	399 4791	258 5531	701 2987	350 3710	660 4059	151 7012	1,613 2376	474 3559					
1897.. 2,202 1737	424 4509	258 5531	661 3167	359 3626	663 4041	163 6496	1,461 2513	475 3551					
1898.. 1,741 2197	419 4562	263 5426	612 3261	336 3874	683 3922	150 7059	1,472 2494	447 3773					
1899.. 2,152 1778	490 3901	286 4821	805 2601	394 8394	776 3452	164 6456	1,501 2446	545 3095					
1900.. 2,439 1975	561 3978	276 5327	773 3131	417 4199	750 4142	203 5263	1,718 2419	508 4072					
1901.. 2,430 1884	571 3908	249 5905	757 3198	417 4199	809 3840	207 5151	1,720 2417	530 3903					
1902.. 2,529 1906	531 4303	277 5308	776 3119	446 3926	769 4039	220 4856	1,830 2271	521 3971					
21,044	4523	2513	7415	3694	7313	1761	15,708	4967					
Grand total of patents issued in all States.....											68,938		
SOUTHERN STATES.													
Alabama.	Arkansas.	Florida.	Georgia.	Kentucky.	Louisiana.	Maryland.							
Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	
One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	
1893.. 91 16,626	105 10,744	62 6313	115 15,976	224 8,297	99 11,298	190 3594							
1894.. 88 17,192	57 19,792	46 8509	110 16,703	160 11,616	105 10,653	305 3417							
1895.. 91 16,626	75 15,042	63 6213	114 16,117	210 8,850	210 8,850	260 4009							
1896.. 109 13,880	84 13,430	55 7116	128 14,354	198 9,387	133 8,410	260 4009							
1897.. 97 15,598	92 13,430	81 4832	130 14,133	193 9,630	115 9,726	228 4571							
1898.. 80 18,914	92 12,266	72 5436	106 17,333	203 9,153	97 11,533	245 4254							
1899.. 88 17,192	98 11,515	54 7248	131 14,025	223 8,332	119 9,401	297 3503							
1900.. 95 19,249	99 13,248	66 8008	172 15,968	235 9,136	140 9,568	318 3742							
1901.. 82 22,306	102 12,858	53 9972	149 14,874	218 9,849	121 11,418	296 4013							
1902.. 89 20,547	83 15,801	57 9272	162 15,681	229 9,255	88 15,700	312 3814							
910	879	609	1317	2096	1227	2808							
Grand total of patents issued in all States.....											15,714		
SOUTHERN STATES.													
Miss.	N. Car.	S. Car.	Tenn.	Virginia.	Texas.	W. Va.							
Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	Pats. and designs.	
One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	One to every	
1893.. 57 22,624	85 19,034	47 24,492	143 12,360	144 11,499	335 6673	54 14,125							
1894.. 59 21,857	87 18,597	45 25,581	106 16,674	134 12,358	271 8049	74 10,308							
1895.. 37 34,854	64 28,894	41 28,076	112 13,082	135 10,682	277 8070	73 9,779							
1896.. 40 16,180	68 22,793	36 31,976	140 12,625	154 10,763	297 7527	86 8,890							
1897.. 80 16,120	93 17,397	30 38,371	148 11,942	185 8,951	379 5898	99 7,704							
1898.. 68 18,964	71 22,787	48 23,992	155 11,401	177 9,355	340 6574	102 7,478							
1899.. 85 13,574	77 21,012	46 25,024	177 9,984	213 7,774	351 6388	116 6,575							
1900.. 74 20,963	82 23,095	47 28,517	203 9,953	200 9,270	373 8173	121 7,923							
1901.. 86 18,038	103 18,386	47 28,517	194 10,415	192 9,657	339 8983	118 8,125							
1902.. 91 17,046	97 19,523	46 29,137	185 10,922	201 9,224	358 8515	119 8,957							
604	828	433	1586	1755	3320	967							
Grand total of patents issued in all States.....											15,714		

#### ALABAMA STEEL RAILS.

Southern Roads Contracting for the Ensley Mill Product.

[Special Cor. Manufacturers' Record.] Birmingham, Ala., August 31.

It looks very much as if the action of the Southern iron committee, on the request of the furnace owners to reduce the freight on pig-iron, will largely settle the iron-market conditions for a while, at least. The makers have asked the railroads to take off the fifty cents increase put on the latter part of 1902, so as to allow them to meet competition in Pennsylvania and other iron-consuming districts. The committee will meet here Friday next to take up the matter. The present rate to Pittsburg is \$4.85, to Massillon, Ohio, \$4.35, and Cleveland \$4.35. Birmingham must get its iron to all these centers fifty cents cheaper on the ton, or practically be out of the running. In addressing the railroads on the subject the iron-makers say: "We are now in a position where, as a matter of good business policy, we believe that you will admit that the railroads should withdraw the advance of fifty cents per ton

put on during the last half of 1902, as we are not now able to realize anything like what we could get for our pig-iron at the time the advance was made. We are nothing more than partners in the business, and if we are to move the product for the last four months of the year, it is necessary that the railroads act promptly. We therefore hope that you will give us a decision as speedily as possible."

It is regarded as practically certain that if this concession is made by the railroads the 150,000 tons of iron now on the yards will be moved away by the end of the year. There seems also good reason to hope that the reduction will be granted.

Some sales of iron, especially in foundry grades, are reported for the past week, with inquiries for a number of large lots. Foundry irons and gray forge and No. 4 are sought, and prices have been made on enough to make a good showing on the sales-books if the orders are secured. There is more general activity than for several weeks, with a number of small orders booked. Large

deals are scarce, though, and much depends on the action of the railroads on the question of reducing the freight rate. The sales being made, however, are for actual consumption, nothing being done in a speculative way. The production remains very heavy.

Finished iron and steel is quiet, though the machine shops, iron and brass foundries are doing big business; in fact, these latter interests are doing better this year than ever before in the history of the city. The rolling mill of the Tennessee Company at Bessemer and that of the Republic Company at Gate City are on full time except at Bessemer, where the plate mill is off because of continued inability to agree on a wage scale. The Anniston rolling mill is also at work. The Birmingham mill of the Republic Iron & Steel Co. is still out, but is being overhauled and put in the best of physical condition. It will probably get back to work about September 15.

The steel mill at Ensley and the rail mill hardby are busy as can be. Southern roads have contracted recently for rails made at this mill, among them being the Louisville & Nashville, which will use Ensley rails in the new yards at Boyles. Rails have also been shipped recently from Ensley to Knoxville, Tenn.; Biloxi, Miss., and Sterling, Ind. Good prices are being paid for the product.

The pipe plants of the district are very busy with profitable contracts; in fact, it is said that some plants have trades on hand that will net them large and especially lucrative returns. Most of the works can get all the iron needed now, and at a price very much below what they expected to pay when contracts for pipe now running were made.

New contracts have been signed between the coal miners and operators, and most of the mines are at work. There is some trouble at Virginia mines, owned by the Alabama Steel & Wire Co., where a strike is on, but with this and one or two small exceptions, the mines are again at normal output. Demand is good, and the prospect is splendid for the mines to be worked to full capacity all the winter. State Mine Inspector J. M. Gray believes that the coal output for the year will be between 11,000,000 and 12,000,000 tons. Last year it was 10,329,479, and the year before 8,970,617. The prospective increase for the year is accounted for in the heavy work of the first half of the year. Only Jefferson and Bibb county mines lost time because of suspension pending wage settlements, while Walker county showed a tremendous increase. Added to the heavy output is the fact that the railroads are furnishing cars needed and the product is moved rapidly.

The receivers of the Southern Car & Foundry Co. have been ordered to proceed with work at the Gadsden plant and to pay wages due men there. It is thought that similar orders will be made concerning Anniston and Memphis.

H. W. L.

#### Texas Crop Prospects.

In a letter to the Manufacturers' Record Messrs. Houston & Liggett of Columbia, Texas, write:

"The crop outlook at Texas was never better, especially for corn, which is practically made. The only thing apprehended is that the continued rains will rot the corn in the field before it can be gathered. Cotton looks well, and if the rains will cease, there will be an average of half a bale to the acre, in spite of the boll weevil. It has fruited well and there is but little complaint so far of the weevil. All are in good spirits, and the outlook for good trade in all lines this fall was never better."

**WINTER IN NEW ORLEANS.**

An Influence for Increasing Its Popularity.

[Special Cor. Manufacturers' Record.]  
August 29, 1903.

With the completion of improvements now under way the New St. Charles Hotel will be able to house more than 1000 guests, thus making this one of the largest, as well as one of the very best, hotels in the country. The work on the new twelve-story annex is rapidly progressing, and it is announced that it will be fully finished and ready for occupancy by the time winter travel begins. The improvements to the St. Charles include not only some 200 living rooms, a large majority of which are arranged en suite, with bath, but there will be added several features which will make the New St. Charles a place of even greater comfort and convenience than it has been heretofore.

And it is an unquestionable fact that Manager A. R. Blakely has done more with the St. Charles Hotel to widely extend the popularity of New Orleans as a winter resort than can be credited to any other one factor. The value and importance of comfortable hotel accommodations has never been more forcibly demonstrated anywhere, for without the St. Charles a large number of national conventions which have gathered in New Orleans during recent years would have been an impossibility, and the vast benefit that New Orleans has thus received in the way of the advertising of its commercial possibilities, as well as social attractions, is universally conceded and can hardly be overestimated.

The New St. Charles now occupies the larger part of an entire city block and is a hostelry that in appearance and appointments would do credit to any city in the world.

The new annex became a necessity through the impossibility of taking care of the vast crowds that throng New Orleans through many months of the winter season, and in its construction opportunities were given for providing a number of conveniences that were found desirable.

One of the important innovations will be a very elegant ground-floor restaurant, with a seating capacity of about 150. This restaurant will be located on the Gravier street side of the old building, now occupied by stores. It is intended that there shall be nothing finer anywhere in the way of a restaurant than this new room. It is to be elaborately finished and decorated in mahogany and marble, with the walls and ceilings frescoed in oil. It is the intention that in furnishings, appointments and service the restaurant will be second to none in the country. Although New Orleans is famed the world over for its restaurants, they are largely of the Bohemian order, and it is an oft-noted fact that up to this time no place has existed here such as are found in most other cities where after-theater parties may be entertained. The New St. Charles restaurant will fill this want to a superlative degree, and it is not doubted that it will also become a favorite luncheon and dining place for businessmen and ladies on shopping trips, as well as for visitors to the city.

The annex will also enable Mr. Blakely to greatly enlarge the present dining-room of the hotel on the second floor. The room will be extended so as to take in all the space of the present kitchen department, adding 50x50 feet and giving a grand dining hall 50 feet wide by 200 feet in length. This outside of the present restaurant, which adjoins the dining-room proper. In addition there will be provided in the annex a number of private dining-rooms.

A new departure in the conduct of the hotel will be the elimination of the American plan. After all the improvements have been completed and the new dining-rooms opened the house will go entirely on to the European plan, following the custom now prevailing in the best hotels of most of the larger cities of the country. Table d'hôte luncheon and dinner will, however, be served for those who are hurried or those who dislike ordering and paying by piecemeal.

There will be no separate entrance to the new annex except a covered driveway on the Gravier street side, giving private access to an alleyway running from Gravier street to Common street, through which baggage wagons, etc., will be run. Entrance to the annex will be effected from the main lobby through a corridor near the present Gravier street entrance to the hotel, and there will be corridor connections on each floor to the new addition. There will be three elevators in the new part in addition to the others now in the main hotel, and there will be three dumbwaiters connecting the basement with the third floor.

The entire engine-room of the hotel has been remodeled with new engines and boilers throughout, making the power plant for electric lighting, refrigerating, ice-making, etc., one of the most complete to be found.

The new annex has one innovation that is not only of the greatest convenience to the hotel management, but really marks an epoch in construction work in New Orleans, for here we find the first ordinary, practical basement ever built in this city.

From time immemorial it has been the opinion of architects and builders generally that a basement or cellar was a physical impossibility in New Orleans, owing to the character of the soil and foundation. Against these opinions Mr. Blakely always insisted that it was as feasible here as in Chicago and other cities of a low level.

Messrs. Stone Bros., the architects, coincided with his views, resulting in a perfectly successful and satisfactory basement some ten feet under the sidewalk, and filling a much-needed shortage in the economic management of the working department, the most important in a hotel—the department where the money is spent. It will be used for refrigeration and cold storage and the storage of groceries, wines and liquors and various other supplies connected with the steward's department. Its successful construction will prove of much advantage to local contractors and builders in their future plans for the building up of the booming Crescent City. Other improvements of magnitude are the removal of the present laundry from the ground floor to the story above the engine-room, doubling its space and efficiency, and in adding the space vacated to a much-needed enlargement of the present baggage and parcel rooms and private office.

A part of the general plans of the improvements, all of which were agreed upon at the same time, is the remodeling of the Palm Garden at a cost of \$22,000, which was done last year. This work, by which the former open court was given a hardwood floor and glass roof, was hurried to completion so as to be used as a general assembly and reception room by visitors to the numerous conventions held here during the past winter. Those familiar with the Palm Garden of previous years will realize what an important improvement was effected and how greatly it has added to the comfort of the thousands who visit the St. Charles during the season.

At present the entire St. Charles Hotel is being renovated and put in order for

the busy season. The annex will be furnished throughout in harmony with the furnishings of the main hotel, which are of the highest standard of taste, comfort and convenience. A house telephone system will be established throughout the entire hotel, replacing in the old part the Telesame system that has heretofore been in use.

Manager Blakely has just returned from a busy trip to the furniture centers of the North and has completed his purchases of the appointments of the new building. Wherever he went he talked New Orleans with characteristic enthusiasm, and he reports an increasing interest in this city on all sides. From what he heard while away he is confident that there will be more visitors to New Orleans during the coming season than the city has ever entertained before. It was thought that high tide had been reached last year, but there are evidences that the volume of travel will go on increasing every year. In fact, it has gotten so now that New Orleans is a pretty busy place the whole year around. Instead of the dullness that formerly characterized a large part of the season, there has not really been a dull week this entire year, and the arrivals at the St. Charles Hotel have fallen off relatively no more than they have in any other commercial center of the country. ALBERT PHENIX.

**For Fine Tobacco in Texas.**

An interesting feature of the Southern Pacific's work for immigration in the Southwest is the report that the company is willing to build for the general government on its own terms a big tobacco warehouse at Nacogdoches, Texas. It is in that vicinity that at the initiative of the Southern Pacific system government experts have demonstrated that fine tobacco may be raised, and it is said that the warehouse under government auspices is necessary to insure success in planting. The New Orleans States, crediting Mr. T. J. Anderson, the new general passenger agent of the Southern Pacific with the plan for the warehouse, says:

"If the warehouse is forthcoming it is said that the Southern Pacific will issue some very attractive literature on tobacco culture which will be put in the hands of the road's immigration agents at once for the purpose of getting a number of settlers on this land at the earliest possible date. There are a number of tobacco-raising districts in the United States where the farmers can be induced to move to Texas if they are quite sure that they will better their financial conditions in doing so. It will be impossible to so assure them and convince them unless the warehouse is built, and that is now what Mr. Anderson proposes to do. Of course, Uncle Sam has got plenty of money for any purpose, but there is a lot of red tape attached to each and every transaction, and if the agricultural department has to wait until another session of Congress convenes to get the necessary funds to construct the warehouse, then it will throw the Southern Pacific back a whole year in the work of securing settlers for the new tobacco region which Mr. Anderson desires to begin at once."

**Texan Fire Balls.**

In a letter to the Manufacturers' Record Mr. G. A. Baumgarten of Schulenburg, Texas, writes of a somewhat remarkable piece of land near the Lavaca river, in Lavaca county, Texas. On this land is a lake of about five acres area, "Surrounding this lake," writes Mr. Baumgarten, "are hills at a distance of 1000 to 1500 yards, and from 300 to 500 feet high. They lie southwest from the lake. The lake formerly had about twenty-four feet of water, but of late years

has filled up to about seven or eight feet. During sultry, close weather fire balls come from the large timber surrounding the lake. These fire balls, which are from two to six inches in diameter, always move to the southeast. Some persons believe that the fire balls are an indication of oil."

**The Pig-Iron Market.**

Matthew Addy & Co. of Cincinnati, in their weekly report, say:

"We are in the midst of a buying movement that since it began on the 17th, when the associated furnaces reduced their price on No. 2 foundry to \$12, has been steadily growing in volume. There has been a great deal of purchasing of pig-iron this week. The present buying movement is not a strenuous, nerve-racking affair, but it seems to have set in for keeps. Day by day there is a regular, uniform jog-trotting, so to speak, kind of buying that is exceedingly satisfactory. Everything on the list has been sold, from high-grade ear-wheel charcoal irons down to ordinary Southern mottled. There has been no especially large transaction this week. To tell the truth, orders for 500 tons have not been overly frequent, but orders for 100 tons and for fifty tons have been like the falling leaves in October. These smaller orders are all for prompt shipment. It is a very significant fact that we have already had from a concern that bought a small lot a week ago a duplicate order. It looks entirely reasonable to expect that all of the hurry orders now being received will have to be repeated within a very short time, as the iron is being bought, of course, entirely for immediate consumption. There is absolutely no speculation in the kind of purchasing we are now having. Consumers are buying against absolute immediate necessities, and in most cases they are needing the iron so badly that they are not allowing themselves a proper margin of time for the iron to get forward from the furnaces.

"In regard to shipments, the railroads are doing very well. They are handling pig-iron and coke expeditiously, but there are already signs in the South of a car shortage. One of the large furnace divisions in the State of Tennessee, for instance, has been absolutely unable to get cars this week. When cotton begins to move in the South, as it will vigorously along early in October, there is certain to be a very decided shortage of cars, and remembering our doleful experiences in previous years, we believe foundrymen who are going to need pig-iron during the last quarter of the year will do well to order it forward as promptly as possible.

"Present prices are not being criticised. Buyers are making no objection to them whatever. In most cases they are paying them cheerfully, recognizing that furnaces North and South have gotten the prices down to a point where there is not a fair mercantile profit left.

"The immediate prospect looks very good. We can see nothing to soon interrupt the present condition of affairs. It looks to us as if this buying movement might extend for some time to come. At the present time very heavy consumers are in the market discussing the advisability of closing for round lots."

During the past four months 510 new buildings have been erected at Nashville, Tenn., at a cost of \$647,775, and still it is announced that there is a scarcity of homes for newcomers.

It is reported that the steel works at Monterrey, Mexico, has just made a contract with a Westphalian company for the delivery of 50,000 tons of coke.



## GENERAL NOTES.

## Brief Mention of Various Matters of Current Interest.

During August 1685 carloads of oil were shipped from the Sour Lake (Texas) field.

Wheeling (W. Va.) potteries are selling sanitary ware to dealers at Frankfort-on-the-Main, Germany.

More than 325 applications for positions in the tobacco factory at Greenville, S. C., have been received from young women in that vicinity.

The Union Refinery of Jennings, La., has gone into operation with a capacity daily of 1500 barrels of crude oil. It also turns out lampblack and axle grease.

Sales in the Joplin (Mo.) district during the week ended August 29 were 9,506,900 pounds of zinc ore and 1,111,970 pounds of lead ore, of an aggregate value of \$203,170.

During July 108,131 tons of pig-iron and 14,846 tons of cast-iron pipe, 2759 tons of steel billets and 5103 tons of steel rails were shipped from the Alabama-Tennessee district.

The Greenwood (Miss.) Board of Trade is seriously contemplating the construction of sixteen miles of gravel roadway from the city into one of the most productive farming sections of Mississippi.

What is said to be the first cargo to New Orleans from the Texas fields of refined petroleum arrived last week from Port Arthur, Texas. The cargo consisted of engine oil, dynamo oil and asphaltum.

The production of crude petroleum in the United States in 1902 was 80,804,590 barrels, an increase of 11,505,396 barrels over the preceding year. Of the increase 5,830,944 are credited to Texas, 548,617 to Louisiana and 47,799 to Kentucky and Tennessee.

The first rice of the season from Southwest Louisiana has been brought to the mill at Morse. The New Orleans & Northeastern Railway has arranged special excursions to induce the migration from the North and West of laborers for the rice harvest.

In a letter to the Manufacturers' Record Mr. C. S. Babin, a civil engineer of Lafayette, La., grows eloquent upon the subject of irrigation, and says that it is hard to think of the "well-brewed waters loaded with all the properties suitable for rice plants and for other crops going into the Gulf of Mexico to help form new islands."

John H. Carpenter and J. W. Howard of Columbia, Tenn., have optioned 1000 acres of undeveloped phosphate territory in Hickman county from the Leatherwood Phosphate Co. of Nashville, Tenn., and will begin the work of development at once, constructing a branch railroad from the property to the main line, eighteen miles distant.

The Toccoa Record, published by Mecklin Bros. of Toccoa, Ga., is arranging to issue early in October a special edition summarizing the developments during the past twelve or eighteen months in its section of the Southern Piedmont country. It proposes to have this summary written in the shape of articles by men who have been largely responsible for bringing into public notice the opportunities of the Piedmont country as an encouragement for investment and settlement there.

## FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

## THE RUSSIAN MARKET.

## Suggestions for American Manufacturers and Exporters.

Leon Bricker of Odessa, Russia, who for thirty years has been active as a shipper at Odessa, writes to the Manufacturers' Record in the interest of American exporters to Russia. He says that for many years Germany has governed the Russian market. Foreign firms travel Russia very often, and there is now no place in which German, French and English goods cannot be sold. But he adds that during the past twenty years American manufacturers have begun to offer strong competition to European factories, but that Russia orders every year great quantities through foreign export houses. Notwithstanding the tariff war of recent years, many goods are still brought from the United States, and, despite the high duties, compete with those of Germany, England and France in many branches. Already there is a regular steam packet connection between New York and Odessa and in a short time another fleet will be operating between the two points.

Mr. Bricker says: "Thanks to this new arrangement. We have now the possibility of getting goods direct from America without the necessity of their passing by way of Hamburg. The merchants of Odessa have done everything possible to bring about close relations, and I am convinced should we find the right sources of supply these new relations will be in the interest of increased business. Russia has imported tools and iron goods principally from Germany. In recent years America has also sent some. I should be happy if you could recommend to me suitable firms in that line. For a long time our customers have desired to obtain optical supplies direct from America. Merchants buy American optical goods through dealers in Stuttgart and Paris, consequently the price is advanced and it is impossible to do very much business, formerly Germany, England and Austria imported paraffine in great quantities and the price was generally fifty-five to fifty-eight marks per 100 kilogrammes at Odessa. Since America has begun to export this product the price has fallen to fifty marks per 100 kilogrammes at Odessa. America meanwhile ships paraffine to Odessa at forty-two marks per 100 kilogrammes. In case of necessity when we have urgent use for it we order from Trieste or from Hamburg.

"In conclusion I would say that I shall be most willing to represent as agent any American export firm dealing in notions, laces, optical, physical and chemical apparatus, iron, tools, machinery, etc."

Karl Balk of Riga, Russia, writes to the Manufacturers' Record that he is continuously in need of lathes, boring machines, stamps and die cutters, petroleum and gas motors, boilers and steam engines of from two to twenty horse-power, pumps of all kinds, steam turbines, machinery for laundries and candy-making, outfits for slaughter-houses, fire apparatus, hose, etc., windmills, appliances for bookbinderies, machinery and accessories for printers, shoemakers, chemical works and led-pencil and match factories, petroleum and benzine motor boats. In addition he writes that he would like to become agent for spring harrows, sowing and fertilizing machinery, seed drills, mowers, plows, corn mills, milk separators, farming implements and locomobiles.

## Trade With Belgium.

In a letter to the Manufacturers' Record Herbert J. Higgs, 37 Montagne Aux Herbes, Potageres, Brussels, who desires to represent American manufacturers there, says:

"Belgium is a good field for American products. They enjoy a good reputation here and are handled by the leading merchants. I am personally interested in metal-working machinery, especially for the manufacture of wire, wire nails, bolts and nuts, and I often get inquiries for hardware and machinery."

## Notes.

Pactow Bros., No. 5 Scheuren street, Dusseldorf, Germany, write to the Manufacturers' Record that they would like to represent in Germany the very best American maker of armatures not already represented there.

John Loken of Christiania, Norway, writes to the Manufacturers' Record that he is working exclusively as general agent in Norway, Sweden, Denmark and Finland for wheat flour, rolled oats, provisions, lard, neutral lard and oleomargarine, and will be glad to extend his American connections.

V. Cordero M. de Oca & Co. of Toluca, Mexico, write to the Manufacturers' Record that they would like to represent American manufacturers of machinery. They cannot indicate exactly what articles would find ready sale there, but express the belief that experts in export trade would be able to determine that matter more satisfactorily. They would like to establish an American agency.

Ernest Wehneke of No. 17 Neuerwall, Hamburg, Germany, writes to the Manufacturers' Record that he makes a specialty of importing American articles into Germany and that he is especially interested in office supplies, household and kitchen specialties, small machinery, electrical goods, hardware, etc., and that he would like to introduce practical inventions and novelties of general interest.

It is stated that a deal has just been closed by citizens of Nacogdoches, Texas, and the Hayward Lumber Co. whereby the lumber company will build a big saw mill at that place. The mill will have an annual cutting capacity of 100,000,000 feet. The company will build a standard-gauge railroad, sixteen miles long, to its timber, which is in the center of the oil fields.

Mr. H. Galloway, secretary of the England & Clear Lake Railroad, writes from England, Ark., to the Manufacturers' Record: "The rails have been laid to Lockville, nearly five miles, and surfacing and lining are being pushed as rapidly as possible. This will probably be as far as will be built this year."

President Joseph Ramsey, Jr., of the Wabash Railroad is quoted as denying the report that it will enter Cincinnati by acquiring the Cincinnati, Louisville & Chicago Railroad. He further said, according to the report, that the Wabash has no intention of going to that city.

Mr. John Wharton Maxey of Houston, Texas, is reported to have been appointed chief engineer for the Trinity & Brazos Valley Railway, now under construction. This line, it is stated, has already begun to handle freight, being completed from Hillsboro as far as Hubbard, Texas.

It is estimated that \$2,000,000 are to be expended in improving Bayou Plaquemine and Grand and Pigeon bayous, which will give a navigable waterway from the Teche country, Louisiana, to the Mississippi river.

## RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

## RAILROAD AND STEAMERS.

## Louisville &amp; Nashville Arranges for Regular Service to Europe.

The Louisville & Nashville Railroad Co. will, according to a report from Louisville, within thirty days establish a line of steamers from Pensacola, Fla., to the most important ports of Southern Europe. The arrangements for the steamers were concluded with the Austro-American Steamship Line, and they will be all new vessels of from 4000 to 6000 tons.

This new arrangement is reported to have been brought about through the efforts of Mr. C. B. Compton, traffic manager of the railroad company, and the first sailing is to be on September 15 or October 1.

Mr. Compton is reported as saying that the steamers will touch at the following ports on the Mediterranean: Marseilles, France; Genoa, Leghorn, Civita Vecchia and Venice, Italy, and Trieste, Austria. He is further quoted as saying:

"The Louisville & Nashville Railroad has been for several years engaged in business to the Mediterranean and Adriatic ports, and the business has been so successful that arrangements are now made for regular service at regular intervals. Cargoes are composed of phosphate rock, grain, forest products of all kinds, cotton, oil and general merchandise."

## The Boston Mountain Line.

Mr. James F. Brooks, writing from Cape Girardeau, Mo., informs the Manufacturers' Record that the Boston Mountain Railway Co., which has been chartered to build a standard-gauge line from White river up the Buffalo river to a point near St. Jo, fifty miles, has located its line and rights of way are being secured.

The proposed road begins on the right bank of White river at Buffalo City, in Marion county, Arkansas, where connection can be had in the beginning by ferry, and afterwards by bridge, with the Batesville-Carthage division of the St. Louis & Iron Mountain Railroad, and runs on two miles of an old completed roadbed to the mouth of Buffalo, thence up Buffalo twenty-seven miles, where the line enters Sevier county, and continues therein to the crossing of the river near St. Jo by the Eureka Springs-Harrison branch of the Frisco-Rock Island system.

It is stated that the grade is virtually a water-level line, with easy curves, and that there is plenty of ballast gravel, with ample supply of white oak and pine timber immediately at hand. It is further stated that the mountains are rich in stone, as well as in timber, there being on the peaks strata of marble ranging from light gray to black. There is also said to be a large supply of zinc ore, fifty mines being named along the Buffalo river. In addition to this, the country is said to possess first-class agricultural qualities.

## Tennessee Western Survey.

Advices from Memphis, Tenn., report that surveys have been started for the proposed Tennessee Western Railroad, to build a line from Humboldt via Alamo to Dyersburg, Tenn., and possibly to a point on the Mississippi river opposite Caruthersville, Mo., A. D. Cunningham of Humboldt, one of the incorporators, being in

charge of the survey. The line will run through Gibson, Crockett and Dyer counties.

W. H. Skivington of Pittsburg, Pa., president of the company, is quoted as saying that the road will surely be constructed, and that it will be wholly independent. It will be thirty-six miles long, from Humboldt to Dyersburg, and if extended to the Mississippi river it will be about thirty miles longer. Either Tiptonville, Tenn., or Caruthersville, Mo., will be the western terminus. The line selected traverses a productive farming region, and considerable local traffic is promised. Connection will be made at Humboldt with the Mobile & Ohio and the Louisville & Nashville railroads, and at Dyersburg with the Illinois Central Railroad. At Caruthersville, Mo., the road would touch the Frisco system.

Eastern capitalists are reported to be interested in the proposition, which is to develop a section that is now without railroad facilities.

#### To Build a 30-Mile Line.

Mr. C. E. Montgomery, general manager of the Southern Land & Immigration Co., Natchitoches, La., writes the Manufacturers' Record that they have in contemplation the building of about thirty miles of railroad over a rich and level valley in North Louisiana, and wish to get into communication with some persons or companies who will give them the desired information on the following points:

"First—The difference, if any, in building for steam locomotive power and electric power.

"Second—Can a road built to be best adapted to electric power be used for steam power?

"Third—Cost of equipment for steam and cost of equipment for electric power; the electric road to be suitable for both passenger and heavy-freight traffic.

"And such other information connected with the cost of construction, equipment, etc., as it may be desirable for us to know."

#### Progress on the Jellico Road.

J. E. Rhodes, who has a contract on the Knoxville, Lafollette & Jellico Railroad, an extension of the Louisville & Nashville, is quoted as saying concerning the line:

"That is one of the most remarkable pieces of railroad work. The low grade is its distinguishing feature. Just to think of a road through such a mountainous country with a grade of only one-half of 1 per cent., or twenty-six feet to the mile. This is what the grade of the Illinois Central is from Chicago to New Orleans. The line means the development of rich mineral territory. Our part of the Knoxville, Lafollette & Jellico will be completed within three months, but I do not think it will be possible to open the entire line until a year from now."

#### Maryville & St. Joseph.

Mr. C. C. Graves, secretary of the Maryville & St. Joseph Electric Railway Co., writes from Maryville, Mo., to the Manufacturers' Record as follows:

"The proposed electric line starts at Parnell, a town on the Chicago Great Western Railroad, passes through Maryville, a town of 6000 inhabitants, then through Graham and Fillmore, two inland towns; then to Savannah and St. Joseph; total length, seventy miles. It is to be standard gauge, and handle both freight and passengers. The richest agricultural country in the State is traversed by this route. Mr. George Custer of this city is the engineer in charge."

#### Hayneville Railroad.

Messrs. Ausfeld & Chapman, civil engineers, of Montgomery, Ala., write the Manufacturers' Record under date of August 29 as follows:

"At the present time we are making a survey for the Hayneville Railroad, a feeder of the Louisville & Nashville, a distance of eight miles, running from Morganville, on the Louisville & Nashville, to Hayneville, the county-seat of Lowndes county. The grading of the road will commence Monday, August 31, and will be pushed to completion as rapidly as possible. The railroad, with its rolling stock complete, will cost in the neighborhood of from \$80,000 to \$90,000."

#### 'Frisco Magazine.

The 'Frisco System Magazine for August is full of entertainment for its readers. The first article is "Oklahoma," by Frank Eberle, who tells of the opening of the Territory to settlement and of its remarkable progress. "The Texas Trail," by M. J. Reynolds, is about the wonderful cattle drives which used to be made between Texas and Kansas. This story is followed by a short narrative about the cattle country of today. The other contents of the number are also well written and neatly illustrated. The magazine is published by the St. Louis & San Francisco Railroad.

#### Tennessee Industrial Road.

The Tennessee Industrial Railroad is the name of a line projected in Tennessee and Mississippi. Mr. J. R. Neblett, civil engineer, who is also county surveyor of Dickson county, Tennessee, writes to the Manufacturers' Record from Charlotte, Tenn., that papers have been taken out by Chicago capitalists for a charter for the line, which is to run from the mouth of Harpeth, on the Cumberland river, thirty miles below Nashville, via Charlotte and Pond, Tenn., to Corinth, Miss. He is now making a survey from the mouth of Harpeth to Pond, twenty-six miles.

#### Sebastian County Electric.

The incorporation of the Sebastian County Electric Co. is reported from Fort Smith, Ark. The incorporators are S. A. Williams, president; Wharton Carmall, secretary and treasurer, and H. G. Bollinger. The line is to be built to connect Fort Smith with Jenny Lind, Greenwood, Huntington, Mansfield and Hartford, which are mining towns, and to build branches to Montreal and Burma; also to furnish these towns with electric light and power. This, it is stated, is a revival of plans projected by the American Smokeless Coal Co. more than a year ago.

#### 'Frisco Terminal in Chicago.

The St. Louis & San Francisco Railroad, which enters Chicago over one of its acquired lines—the Chicago & Eastern Illinois Railroad—is reported to have purchased in that city the entire frontage on the east side of Clark street, between Taylor street and 12th street. This tract has a frontage of 842 feet, with a depth of ninety-six and one-half feet. Its cost is said to have been \$800,000. The land lies along the Chicago & Eastern Illinois Railroad tracks, and is to be used for terminal improvements.

#### Heavy Street-Car Rails.

Some very heavy street-railway construction is being done by the United Railways & Electric Co. in Baltimore. The old cable rails on Baltimore street are being removed and the cable slot filled in, new rails, weighing 107 pounds per yard, being laid. These rails are

grooved and will be laid upon other parts of the system where the traffic is heavy and where the street pavement will permit of their use. They have already been laid upon Pratt street.

#### Maryville to Seneca.

In connection with reports that the Southern Railway is building an extension from Maryville, Tenn., through the valley of the Little Tennessee river to Seneca, N. C., it is also rumored that the Blue Ridge Railroad will extend from Walhalla, S. C., to Seneca, so as to make a low-grade freight route through the mountains. According to expectations, this road, if so completed, will be principally devoted to carrying coal to tidewater.

#### Western Pacific.

A dispatch from San Francisco says that belief is stronger in railroad circles that the Western Pacific Railway, recently incorporated, is designed to give the Gould lines an outlet to the Pacific coast. In support of this belief it is reported that the hauling of freight for the Western Pacific Construction Co. will not be done by the Southern Pacific Co., notwithstanding its bid, but that the Missouri Pacific has gotten the job.

#### Railroad Notes.

The report that the Southern Railway will build a line from Oliver Springs to Pilot Mountain, Tenn., is officially denied.

According to a report from Dallas, Texas, the Rock Island system has made an agreement with the Santa Fe system by which it will reach Galveston.

The Durham & Charlotte Railroad Co. announces the appointment of Mr. Harry S. Jones to be master mechanic in charge of the Elise shops and of all mechanical work.

S. B. Hovey, general superintendent of the Rock Island system at Fort Worth, Texas, is reported as saying that it will build its own terminals and depots in Dallas. The company owns land there and will build sooner or later.

The Louisiana railroad commission reports for the fiscal year ended January 30, 1902, 2912 miles of railroad operated in that State, an increase of 230 miles during the year, but since then over 3000 miles have been put in operation.

The Kansas City, Mexico & Orient Railway is reported to have awarded a contract to the American Car & Foundry Co. of St. Louis, Mo., for 320 30-ton box cars, 100 30-ton combination coal and stock cars, 110 40-ton flat cars and six caboose cars.

The Louisiana & Southeastern Railroad Co. has been chartered in Louisiana to build a line from Thibodaux to Cutoff, thirty-five miles. The incorporators are Jules Godchaux, Charles Godchaux, Sol Wexler, E. F. Dickinson, C. S. Matthews and L. A. Blouin.

The charter of the Pine Bluff & Western Railroad Co. is reported from Arkansas. This, it appears, is a reorganization of the Pine Bluff & Western Railway, running from Pine Bluff to Sheridan, and which is to be extended to Benton. The incorporators include the president and other prominent officers of the older company.

A miniature railroad eight miles long is to be built on the World's Fair grounds at St. Louis by Cagney Bros. It will be a feeder to the intramural railway, and construction is to begin October 1. Steam will be the motive power. The chief engineer is Peter McGarigle of Niagara Falls, N. Y., and the president of the line is T. G. Cagney, Planters' Hotel, St. Louis.

## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

#### To Continue the Ada Mill.

The Fidelity Manufacturing Co. of Charlotte, N. C., has been incorporated with a capital stock of \$500,000 and will organize with E. N. Clemence of Columbus, Ga., as president and manager. This company will take over and continue the plant of the Ada Manufacturing Co., sold last month at public auction to a representative of the directors of the old company. The 8000 spinning and 4000 twisting spindles will be put in operation, together with 600 looms, which will be added so that cloth can be manufactured. Mr. Clemence was mentioned in this column last month as having resigned the treasurership of the Eagle & Phenix Mills of his city for the purpose of organizing another cotton-manufacturing enterprise, and presumably this Fidelity corporation is that enterprise. He and associates also contemplate buying the Victor Mills at Charlotte, which is to be sold publicly on September 7.

#### Moving to the Cotton Center.

A curious contribution to the discussion of the textile industry is made by Mr. Edward H. Jacobs of Danielson, Conn., who, after a tour through European industrial centers, reports in the Boston Globe that a syndicate of Manchester, England, mill agents is talking very strongly of buying next year's supply of cotton just as soon as the new crop comes in. Mr. Jacobs added:

"I am fully convinced, after several months of investigation in England and Ireland, that the cotton-manufacturing center, which is now in Lancashire, England, is gradually moving toward the United States. New England will be its first destination in this country, but economic conditions will determine its course toward the cotton-producing States."

#### A \$30,000 Knitting Plant.

A knitting plant of considerable size will be added to the several enterprises of the Montezuma Manufacturing Co. at Montezuma, Ga. The decision to this effect was made during the current week, and preparations are now being made to erect the necessary buildings. There will be a main structure of brick, two stories high, 50x120 feet, besides a number of cottages for the operatives. The building will be large enough to accommodate machinery for a daily output of 300 dozen pieces of ladies' underwear, but at the start the capacity will be only 200 dozen. About 100 operatives will be employed, and the plant is expected to be completed by the end of the year. It is expected that about \$30,000 will be invested.

#### Building Contract Awarded.

Messrs. Cecil & Weaver of Lexington, N. C., have received contract to erect the necessary buildings for the Issaquena Mills of Central, S. C. The main structure will be built of brick, two stories high, 105x275 feet, and the boiler and engine house will be 40x100 feet in size. The Issaquena company was reported in May by the Manufacturers' Record as incorporated and organized for establishing a plant of 10,000 spindles and 325 looms for manufacturing standard print cloth. O. A. Robbins of Charlotte, N. C., is the engineer in charge of construction and equipment. The capital stock is \$200,000.

Bamberg (S. C.) Cotton Mills Co. is progressing with improvements to its



plant, mainly to the power installation. The boilers are being reset, engines and electrical equipment improved, enlarging reservoir, extending sprinkler system for fire protection, etc.

#### Textile Notes.

Mason Maney of Pearsall, Texas, proposes organizing a company to build a cotton mill, capitalized at \$100,000.

J. W. White, general industrial agent of the Seaboard Air Line Railway, is endeavoring to secure for Northern manufacturers a location on his company's route for the silk mill lately reported. Several towns and cities are in view, but nothing definite has been done.

It is probable that Victor H. Boyden of Raleigh, N. C., contemplates establishing a mill for knitting ladies' and gentlemen's "sweater" garments, as he is seeking the addresses of manufacturers of the machinery needed for that purpose. He can be addressed at 309 Tucker Building.

Messrs. Huffman & Mull, T. P. Moore and others of Drexel, N. C., and New England parties will build a mill for spinning Egyptian cotton. The plant is to be located at Drexel and will be capitalized at \$125,000. Further details regarding the enterprise will probably be announced in the near future.

The Marie Mills of Gaffney, S. C., has decided not to build its proposed plant until next spring. No details as to the mill and equipment had been determined. The company was reported incorporated early in July, with a capital stock of \$150,000. E. R. Cash, superintendent of Limestone Mills, is the leading promoter.

Official notice is being given that the Victor Cotton Mills, Charlotte, N. C., will be sold at public auction on September 7, in accordance with the decision reached some weeks ago. This plant is well equipped with modern machinery, buildings, etc., including 12,672 producing spindles, 6188 twister spindles and complement. A. C. Hutchinson is the receiver.

The Southern Manufacturing Co. of Athens, Ga., is now installing the equipment of machinery for its 4000-spindle cotton mill, reported some weeks ago as to be established. It is stated that the company will also purchase looms to match its spindles. This would be about 120 looms. All the spinning machinery has been purchased. A warehouse one story high, 60x160 feet, will also be built in connection with this plant.

The Virginia Consolidated Milling Co. of Petersburg, Va., has filed a mortgage deed to the International Trust Co. of Boston, trustee. This is done to secure an issue of \$1,000,000 of 5 per cent. bonds, which are to be issued for improvement and operating purposes. The Virginia Company was reported recently in this department as having acquired the Matoaca, Ettrick, Pocahontas and Blue Ridge cotton-mill properties at Petersburg.

#### QUOTATIONS OF COTTON YARNS.

By Buckingham, Paulson & Co., New York, Philadelphia and Chicago.

September 1.	
No. 10s-1 and 12s-1 warps.....	17 1/2 @ 18
No. 14s-1 warps.....	18 1/2 @ 19
No. 16s-1 warps.....	19 @ 20
No. 20s-1 warps.....	19 1/2 @ 20
No. 22s-1 warps.....	20 @ 20 1/2
No. 26s-1 warps.....	21 @ 21
No. 6s to 10s yarn.....	16 1/2 @ 17
No. 12s-1.....	17 @ 18
No. 14s-1.....	18 1/2 @ 19
No. 16s-1.....	19 @ 20
No. 20s-1.....	19 1/2 @ 20
No. 22s-1.....	20 @ 21
No. 26s-1.....	21 @ 22
No. 8s-2 ply soft yarn.....	17 1/2 @ 18
No. 10s-2 ply soft yarn.....	18 1/2 @ 19
No. 8s-2 ply hard.....	17 1/2 @ 18
No. 10s-2 ply hard.....	18 1/2 @ 19
No. 12s-2 ply hard.....	19 @ 20
No. 14s-2 ply.....	19 1/2 @ 20
No. 16s-2 ply.....	20 @ 21

No. 20s-2 ply.....	21 @ 22
No. 24s-2 ply.....	22 1/2 @ 23
No. 26s-2 ply.....	23 @ 24
No. 30s-2 ply yarn.....	24 1/2 @ 25
No. 40s-2 ply.....	27 1/2 @ 28
No. 8s-3, 4 and 5 ply.....	17 1/2 @ 18
No. 20s-2 ply chain warps.....	21 @ 22
No. 24s-2 ply chain warps.....	23 @ 24
No. 26s-2 ply chain warps.....	23 1/2 @ 24
No. 30s-2 ply chain warps.....	24 1/2 @ 25
No. 16s-3 ply hard twist.....	19 @ 20
No. 20s-3 ply hard twist.....	21 @ 22
No. 26s-3 ply hard twist.....	23 @ 24

Prices nominal; market very dull.

#### Cottonseed-Oil Notes.

Mr. E. H. Young of Galveston, Texas, exporter of cottonseed products received the first shipment of cottonseed cake last week of the new crop, the shipment coming from the mills at Shulenburg, Texas. The entire shipment, not all received, will amount to 112 tons.

At Memphis, Tenn., on the 28th ult. cottonseed and its products were quoted as follows: Carload lots of oil, per gallon: Prime crude, nominal; off crude, 24 to 30 cents; prime summer yellow, 37 cents; off summer yellow, nominal; prime cottonseed meal, \$20 to \$20.50, and prime cake, \$20.50 per ton; cottonseed by river, \$12; by rail in bulk, \$13.

Twenty-five of the leading Georgia cotton-oil plants held a meeting in Macon, Ga., last week behind closed doors, the proceedings of which were not made public. It is stated, however, that the object of the meeting was to discuss the feasibility of establishing a cotton-oil exchange in Atlanta for the benefit of the independent plants of Georgia.

The market for cottonseed oil in New York closed firmer for the week ending the 31st ult., and on bids by big producers November sold from 35 cents up to 35 1/2 cents, the latter being bid and 35 1/2 cents asked. December was offered at 35 1/2 cents, without bids; spot and September oil, 40 cents bid, 41 cents asked, and off oil quoted at 36 to 38 cents, with light offerings. Two tanks crude sold the first half of October in North Carolina and Georgia late last week at 29 cents, which is now bid, and 30 cents asked, while all October is offered at 29 cents and 28 cents bid.

The following quotations on cottonseed products were current at the New Orleans Cotton Exchange on the 29th ult.: Prime refined oil in barrels, per gallon, 42 1/2 cents; off refined oil in barrels, per gallon, 38 1/2 cents; prime crude oil, loose, per gallon, nominal; prime cottonseed cake, per ton of 2240 pounds, \$25.50; prime cottonseed meal, per ton of 2240 pounds, \$25.50; soap stock, per 100 pounds, loose, 80 cents; linters, choice, per pound, 4 1/2 cents; A, 4 cents; B, 3 1/2 cents; C, 3 1/4 cents; cottonseed in sacks delivered at New Orleans, per ton of 2000 pounds, \$11; in bulk delivered at New Orleans, per ton of 2000 pounds, \$10.

The lumber industry of Southeastern Texas is at present experiencing a period of unprecedented prosperity. Shipments of the Industrial Lumber Co. from its mills at Beaumont, Texas, in July last exceeded 7,000,000 feet, and for August the estimated shipments were over 10,000,000 feet. The Kirby Lumber Co., Keith Lumber Co. and others have similar reports. It is stated that the business of all the big companies is congested to such a degree that it will require all mills running at their full capacity to fill even present orders. The demand for fall is expected to be unusually active.

The Chattahoochee Chemical & Mining Co. of Girard, Ala., has been organized, with a capital of \$12,000, for manufacturing fertilizers and other chemicals. T. C. S. Howard is president of the company, and Alvan Howard, secretary and treasurer.

## PHOSPHATES.

### Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., September 2.

In local phosphate circles there has been very little doing the past week, and, as in all other fertilizer ingredients, a quiet tone prevails, with values about steady. The offerings of rock in the local market are light, and shipments to the interior from the mines are generally liberal in volume. Reports from the Southern phosphate belt continue encouraging, and the steady work of development is being carried on with the usual vigor. The demand for Florida rock continues as decided as ever, but prominent companies have nothing at the moment to dispose of, being engaged mostly in filling old contracts. There is a strong tendency towards an advance, both in land pebble and hard rock. In Tennessee the movement is active, and miners at Mount Pleasant and other points are very busy, the only drawback being the scarcity of labor. Shipments of Tennessee rock from Pensacola are quite heavy. There is also large shipments of domestic rock. Prices are firm, and holders are not accepting bids at present prices on long-time contracts. South Carolina rock is very steady, and in both domestic and foreign lines there is a considerable movement at present.

La Phosphate of Paris, France, in its issue of August 12, has the following in reference to the general phosphate market: "We have just passed through a short period of atrophy and of hesitations. However, in spite of very secondary transactions registered in the phosphate markets, the firmness of prices has not been affected for a single instant, and consequently there cannot be foreseen, for the season which commences and which already implies the greatest activity existing in the superphosphate factories, the slightest decline in prevailing quotations. These quotations, on the contrary, it appears, can only be implied temporarily from the fact that contracts relative to 1904 entirely absorb a large quantity of material to be produced. The renewal of transactions is excellent and is found a little more animated by the demand of merchandise for prompt delivery. The prices of the combustible article, nearly stationary, exercises no sensible action on those of phosphates, and it is the same with those of ocean and river freights, which remain without change. Shipments are pursued as regular as possible." Of the American phosphate market the same journal gives the following summary: The market maintains itself very well and without there being any advance, the prices of rich phosphates accrete their firmness. It would, then, be nothing extraordinary if, in consequence of large purchases for 1904, which are now in negotiation, the regions of hard rock and land pebble be found a few points advanced. But ocean freights, both for France, the United Kingdom and the Baltic, being offered at relatively satisfactory conditions, can have at present no action whatever on the movement of quotations. Quite an interesting quantity is still negotiated for immediate delivery, or delivery in the first six months of the coming year. However, the principal contracts which have just been registered refer to more distant times of delivery. Shipments are regular, though disposable tonnage is not of exceptional abundance. The French Chamber of Commerce of New York indicates in its statistical tables that there has been progress (increase) in the exportation of

American phosphates to France. Thus, from July 1, 1902, to May 31, 1903, the quantity shipped to France reached 85,238 tons, valued at \$430,190, against 79,932 tons, valued at \$386,445, for the corresponding period of 1901-1902. This proves that, in spite of a competition, French customers of Florida and of South Carolina operators had not diminished.

### Fertilizer Ingredients.

The ammoniate market is quiet without any special feature. Values continue easier and the demand is light, with stock about ample for all requirements. There is no demand from the South. Messrs. Thomas H. White & Co., in their August circular, give the following in regard to the market: "Ammoniates during the early part of August were dull. As is usual at this time of the year, Northern and Eastern manufacturers are more interested in the movement of fall orders than in additional supplies of raw material, either prompt or futures. During the last two weeks of the month the market has been somewhat weak, concessions being made by producers in prices for nearby shipment, and at the close the market is quiet, with prices somewhat lower."

The following table represents the prices current at this date:

Sulph. of ammonia (gas), spot.....	\$3 10 @ 3 12 1/2
Nitrate of soda, spot Balto.....	2 12 1/2 @ 2 15
Blood.....	2 70 @ 2 72 1/2
Azotine (beef).....	2 55 @ 2 57 1/2
Azotine (pork).....	2 55 @ 2 57 1/2
Tankage (concentrated).....	2 45 @ 2 47 1/2
Tankage (9 and 20).....	2 57 1/2 @ 2 60 & 10
Tankage (7 and 30).....	22 00 @ 22 50
Fish (dry).....	32 50 @ 35 00

### Phosphate and Fertilizer Notes.

A company at Palmetto, Fla., has been organized, with a capital stock of \$35,000, to establish a fertilizer factory. The names of the parties interested are not made public.

The plant of the Imperial Fertilizer Co. at Money Point, near Norfolk, Va., was destroyed by fire last week. The building and contents were partially covered by insurance.

Mr. H. W. Gonia of Dayton, Tenn., has purchased and will continue developing the Edington phosphate mines near Chattanooga. It is stated that a large amount will be expended for machinery, etc.

It is stated that the Dunnellon Phosphate Co. has recently commenced operations at its new plant at Holder, Fla., and is getting out a good supply of high-grade rock. This plant was recently turned over to the Dunnellon Company by the contractors, McIver & McKay of Ocala. The same contractors are soon to commence the erection of plant No. 9, which will be about 300 yards from No. 8, for the same company.

The largest cargo of phosphate rock ever shipped from the port of Pensacola, Fla., will be carried out by the British steamer Mercedes de Larrinaga, which entered a week ago consigned to the Gulf Transit Co. The vessel will load for Dunkirk, and her cargo will consist of 5700 tons of rock and 300,000 feet of lumber. The rock comes from the phosphate mines of Tennessee and is shipped by a prominent Tennessee company.

It is stated that Capt. J. D. Riley of Wade, in the phosphate section of Alachua county, Florida, has discovered recently extensive deposits of dolomite in the Suwanee river section. As a building stone the rock is valuable, taking on an excellent polish, being solid and free from soft qualities calculated to destroy its value for building purposes. It is said to be the purpose of Captain Riley to put in machinery and develop the deposits.

## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

### LUMBER MARKET REVIEWS.

#### Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., September 2.

The local lumber market has shown a better tone in many departments of the industry during the past week, and with the approach of autumn there is a greater degree of activity in certain lines. Yardmen and box factories have been in the market during the week, and there is a better demand from out-of-town buyers. The tone of prices for lumber of certain grades, however, is slightly easier, and altogether the volume of business is barely an average one for this period of the season. Receipts of North Carolina pine are still quite liberal, and only in box grades is there any weakness, values of all other grades being well maintained. In cypress receipts are good and stocks well assorted, with prices steady. The demand for cypress from builders is yet limited, but later on, when the harvest season is over, building operations are expected to increase in volume. Stocks of poplar are increasing, with the offerings quite liberal, and with an uncertain and very moderate demand prices have declined from \$1 to \$3 per 1000 feet. With the advent of cool weather the movement in poplar is likely to show up in better form. In most hardwoods the tone is quiet, with no special inquiry from the usual sources. For oak, ash and other woods prices continue very steady, and no decline of any note is reported. The export movement continues of a moderate character, and exporters are only shipping on bona fide orders, very little going forward on commission.

#### Savannah.

[From our own Correspondent.]  
Savannah, Ga., August 31.

The operations among millmen in the logging sections of the interior have been seriously restricted by frequent rains, and this has caused a quiet market here. Receipts have been very light; the number of mills being shut down has lessened the output materially. There will, however, be considerable activity upon the advent of dry weather and the resumption of mills. The demand from Northern ports is improving, and steamers are getting a large share of the shipments, there being very few sail vessels in port at present. Prices continue very steady, and in the open market the present f. o. b. quotations are current: Sawn ties, per 1000 feet, \$10.50 to \$11; hewn ties (7x8x8), 42 cents each; hewn ties (6x8), 28 cents; switch ties, \$11.50; minimum easy-sized yard stock, \$12 to \$14; car sills, \$14 to \$16; ship stock, \$22. Freight rates by sail are steady at \$5 to \$5.50 to Baltimore, \$4.75 to Philadelphia, \$5.62½ to New York and \$6 to Portland. The naval-stores market has ruled quite active, with considerable life in the trade. During the week ending the 28th spirits advanced to 55½ cents, with quotations reported at 55½ cents. The market, however, went off and declined, while at the close on Friday last 53½ cents was quoted against the same figures a week ago. The rosin market improved, and closed with a slight gain over the previous week.

#### Brunswick.

[From our own Correspondent.]  
Brunswick, Ga., August 31.

The outward movement of lumber continues as rapid and prompt as if the weather was suitable for such activity.

The shipments by the Mallory Steamship Line last week amounted to 403,784 superficial feet, the Clyde Line to Boston taking only 136,241 superficial feet. The coastwise freight rate shows a strong figure at \$6.25 on lumber and 19 cents on ties from Brunswick to New York as the South Atlantic basis. During the past week there was shipped from the nearby port of Darien 3,984,391 superficial feet of lumber, of which 318,000 went coastwise to Elizabethport, N. J., and 1,800,391 feet to Sharpness, England, and 2,300,000 to Hamburg, Germany. The foreign exports from Brunswick amount to 629,000 superficial feet, cargoes going to Azores and Spain. The steamer Thordis carried out an immense cargo of naval stores last week, amounting to 12,209,650 pounds of rosin, or 24,416 barrels. This, it is reported, is the largest single cargo of rosin ever taken from a Southern port.

#### Jacksonville.

[From our own Correspondent.]  
Jacksonville, Fla., August 31.

The month of August has been quite active among millmen at this port. Local wholesale men are enjoying a good substantial trade, and mills report the receipt of numerous orders during the last part of the present month. Prices for all grades of lumber under the present inquiry are firm and well maintained, while manufacturers expect values to hold strong during the fall and winter months. Lumber shipments from all the Florida ports have been exceptionally good during the past month, the demand being much greater than the supply. All the firms at this port have been making heavy steamer shipments by the Clyde Line during the month, and at the moment there are few sail vessels in port. The volume of business for the month of August has been very liberal, and shipments well maintained considering that the month is usually one of the dullest of the year. The shipments aggregated 16,625,232 feet for the month, of which 375,000 was cypress lumber, 1,414,075 feet of yellow pine foreign and 14,836,157 feet of yellow pine coastwise. The business in naval stores, shingles and cross-ties was of good volume, and of shingles shipments amounted to 3,645,000, cross-ties 102,500 pieces and 39,965 barrels of naval stores. The Robert R. Sizer Lumber Co. is now loading two schooners for the coastwise trade. These two vessels will clear with 800,000 feet of lumber. The Drew Lumber Co. is erecting twenty-five miles south of Live Oak, on the St. Petersburg railroad, a saw mill, which will be operated by electricity and will have a capacity of 100,000 feet a day. The Otter Creek Lumber Co., at Otter Creek, Fla., controlled by the Bliss & Vanauken Co., has a new modern saw mill, with a daily capacity of 80,000 feet, and a planing mill of 40,000 feet capacity.

#### Mobile.

[From our own Correspondent.]  
Mobile, Ala., August 31.

There is a moderate volume of trade in the local timber market, and prices for sawn timber remain unchanged, 16½ to 17 cents being the quotations in the open market. Hewn timber is in moderate supply, and generally firm at 17 to 17½ cents. In the lumber market mills at this point have only a small supply of logs, but the mills adjacent to the city are very busy, and are making liberal shipments. Values as a rule are about steady, and manufacturers are well satisfied with present conditions, and from indications a very busy fall and winter season is expected. The demand for 11-inch and up prime is active, and shippers

are freely offering \$25 to \$26 on yearly contracts, which are said to be the highest prices offered in the history of the trade. Heart-faced flooring is selling well, and heavy contracts are being made for next year's cut. The Cuban demand is very decided, but values are slightly easier. Shippers are accepting Cuban business at very low figures, but manufacturers decline to accept offers at present prices. There is good business in lumber with River Plate, but mostly on old orders, while, however, there is considerable new business being transacted. At Pensacola there is very little change in the pitch-pine timber market, and prices are now ranging from 13 to 16 cents per cubic foot. Manufacturers, however, are firmer in their views, and ask from one-half to one cent above these figures. Stocks of timber along the Gulf ports have decreased very materially in the last sixty days. Hewn timber is in light supply, and values firm. There is every indication of another heavy outward movement, as exporters have a number of vessels engaged for late September and early October. The British steamer Twickenham has been chartered to load from the Gulf to Southampton and Rotterdam with timber on private terms, September.

#### Memphis.

[From our own Correspondent.]  
Memphis, Tenn., August 31.

During the week under review there has been no special change to note in the lumber market of this section. There is a fair offering of stock, and the movement may be classed above the average for this period of the season. In a local way there are no very large stocks held by any company or firm, and from present indications all the dry stock on hand at the moment and that which will be ready for shipment in the next sixty days will be readily absorbed. The demand for plain red and white oak is improved, and for quarter-sawn red and white oak prices are decidedly firm. The demand for ash is more decided, but this wood is scarce, and prices firmer, with a good inquiry from woodworking concerns generally. In cottonwood stocks are not excessive, and prices generally well maintained. In the production of hardwood lumber in this section weather conditions have been recently favorable for logging purposes, and mills are all actively engaged, while the output is expected to be heavier than usual. Recent advices from Nashville are favorable, and the hardwood industry throughout the State of Tennessee is in a fairly prosperous condition. Every mill is well supplied with orders to keep them busy till early fall trade opens, and during the summer months there has been a regular demand, with a steady and substantial trade sufficient to keep prices firm and well maintained.

#### Lumber Notes.

W. T. Joyce of Chicago, Ill., has purchased from I. P. Ayres 5000 acres of timber land near Tuscaloosa, Ala.

The Weems-Lockwood Furniture Co. of Greenwood, Miss., is erecting a four-story brick mill-construction furniture factory at that place.

A large spoke factory which is being erected at Vaiden, Miss., will soon be completed, and in less than two weeks operations will be commenced.

U. M. Orr, J. M. Orr and E. Frank Pierce have purchased 558 acres of timber land, and will build an extensive lumber plant at Kingwood, W. Va.

The Gulfport Lumber Co. of Gulfport, Miss., has been incorporated, with a capital stock of \$10,000. W. P. Hayne, A.

S. Hinton and others are the incorporators.

The Iowa Lumber Co. of Texarkana, Texas, has been incorporated, with a capital of \$20,000. The incorporators are A. R. Ketchum, F. H. Ketchum and associates.

The Kola Lumber Co. of Kola, Miss., has its plant already equipped with saw-mill, planing mill, sizers, lath and shingle mill. The company has a capital stock of \$50,000.

The Oklahoma Box, Lumber & Manufacturing Co. of Oklahoma City, Okla., has been incorporated, with a capital of \$30,000. The incorporators are A. R. Middekoff, Philip Schlomer and others.

The Milton Lumber Co. of Milton, Ky., has been organized, with a capital stock of \$30,000. The company will erect several stove mills at once. The organizers are Melvin Young, John Christian and W. Fields.

Rucker Bros., recently reported as purchasing 5500 acres of land in Leflore county, Mississippi, will build a saw-mill plant at Ittabena, Miss., with daily capacity of 40,000 feet of plain and quartered oak, ash, gum and other hardwoods.

The Martel Lumber Co. of Martel, Fla., has been incorporated, with a capital stock of \$25,000, for the development of timber lands, manufacture of lumber, etc. The incorporators are W. B. Johnson, Daniel A. Clark, Walter Ray and others.

The McKinnis Shingle Co. of Perryville, Ark., has been incorporated, with a capital of \$10,000, for manufacturing shingles and lumber. J. P. McKinnis is president of the company; G. P. Colvin, vice-president, and Charles E. Thomas, secretary-treasurer.

The Thiemyer Box Co. of Baltimore will be incorporated to acquire and continue the box factory of Thiemyer Bros. The plant will be enlarged to use about 100,000 feet of lumber daily. I. H. Thiemyer will be president, and William S. Thiemyer, secretary and treasurer.

The Barnes & Jessup Co. of Jacksonville, Fla., is extending its business, and is about opening a branch house at Pensacola, Fla., under the management of Dr. E. P. Rose. The company has provided ample storage and conveniences for handling any amount of naval stores.

The Ranger Hardwood Export Co. of Houston, Texas, has been chartered, with a capital of \$50,000, to construct and operate lumber mills, etc. The incorporators of the company are Julian Ranger of Houston, J. W. Kempner, J. H. W. Steele of Galveston, Texas, and Max Sandheimer of Chicago, Ill.

The Burgaw Manufacturing Co. of Burgaw, N. C., has been incorporated, with a capital of \$100,000, to manufacture lumber, crates, baskets and to do all kinds of veneering work. The incorporators are W. W. Butts of Burgaw, R. H. Johnson of Greelyville, S. C.; G. T. Jones of Rocky Mount, N. C.; E. McN. Carr of Faison, N. C., and others.

The Turpentine Operators' Association, which covers the entire belt of eight Southern States, will hold its third annual convention in Jacksonville, Fla., on the 10th and 11th of September. There will be three sessions on the 10th, including the evening session, which will be an illustrated lecture by Dr. Charles H. Herty, and one session, purely business, in the forenoon of the 11th inst. The members of the executive committee are A. D. Covington, president; W. J. Hillman, John C. Powell, W. P. Conoly, W. W. Timmons, J. W. Callahan, H. A. McEachern, Albert Pridgen and J. A. Holmon.



## MECHANICAL.

## Notes from Northern Machine Shops.

By CHAS. S. GINGRICH, M. E.

V.

Having had occasion recently to spend some time in the machine shop of a large printery in Chicago, I was shown a job which I believe will be of special interest in this column. The job is an excellent example of the adaptability of the milling machine, showing as it does a case of work done by milling that could not be done economically on shaping or planing machines. It happens that this printing-house uses a special metallic backing for electrotypes instead of mounting them on wood, as is usually done. An idea of the nature of these blocks may be gained from the pieces shown at the extreme left of Fig. 3. These pieces are shown with their faces down, and it will be seen that they are cored out, so as to make them as light as possible. Whatever may be the advantages to the printer from such an arrangement, it is interesting to us to know that these blocks, which are 43-16" wide by 6½" long and ¾" thick, must be and are finished all over, with edges dead-square and the two faces parallel within .001", and it is the method by which this is done that I am about to describe. Credit for devising this process is due the Cincinnati (Ohio) Milling Machine Co., which claimed at the outset that the work could



NORTH CAROLINA STATEHOUSE, RALEIGH, N. C., AS IT WILL APPEAR WHEN REMODELED AFTER PLANS BY FRANK P. MILBURN, ARCHITECT, COLUMBIA, S. C.

be done successfully on one of its No. 3 plain geared-feed millers.

Fig. 1 shows the miller taking a rough-

ing cut off the pieces, which removes the scale and give an approximately flat surface, so that the pieces can be held in a

more accurate fixture and milled to within a few thousandths of correct size by using the vertical attachment on the

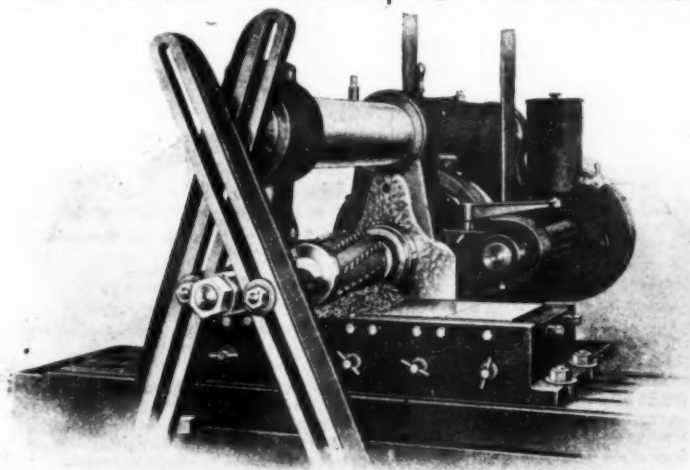


FIG. 1—No. 3 PLAIN CINCINNATI MILLER TAKING A CUT 3-32" DEEP ON PIECES 6½" WIDE AT A FEED OF 5/16" PER MINUTE.

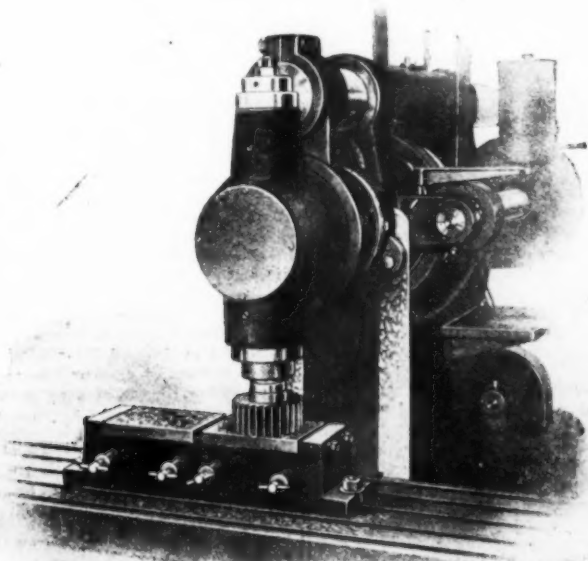


FIG. 2—VERTICAL SPINDLE MILLING CAST-IRON PIECES 4 3/16" WIDE AT A TABLE FEED OF 13" PER MINUTE ON A No. 3 PLAIN CINCINNATI GEARED-FEED MILLER.

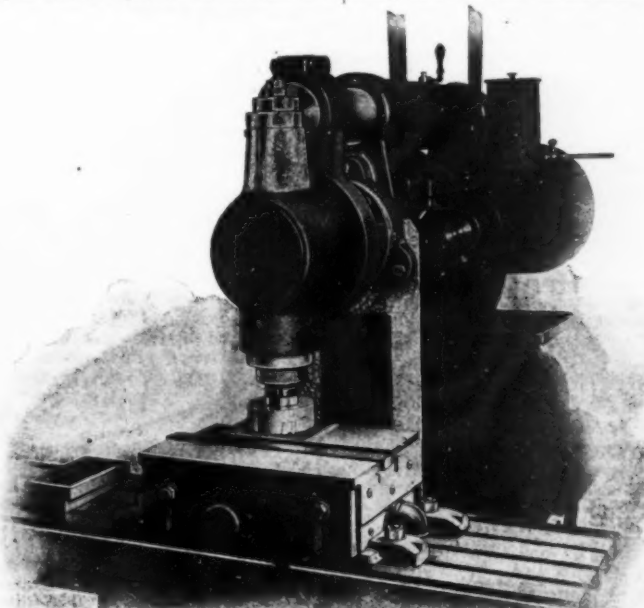


FIG. 3 FINISHING THE PIECES TO EXACT SIZE ON A No. 3 PLAIN CINCINNATI MILLER.

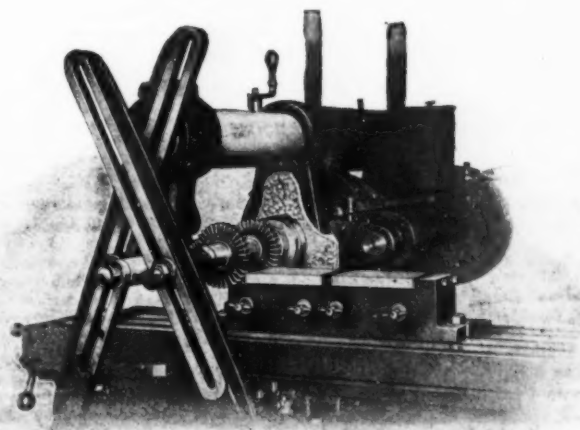


FIG. 4—STRADDLE MILLING THE EDGES OF THE PIECES ON A No. 3 PLAIN CINCINNATI MILLER.

millers as shown in Fig. 2. For the third operation, shown in Fig. 3, they are held on a magnetic chuck and finished to exact size by using a mill having but one cutting edge. And they are finally finished by being again held in a fixture, shown in Fig. 2, in such a manner that two edges are finished at one cut, using side-milling cutters in a "gang." The remarkable part of the whole process is that these pieces are finished by the method shown above, with a maximum variation of less than .001", in the short space of time of 27½ minutes each. The pieces are made in large lots at one time, and each operation is made on all the pieces before a change is made in the cutters and the fixtures on the machine.

It is only when we carefully weigh and consider results like the foregoing that we thoroughly appreciate the revolutionizing influence that the milling machine is having in machine shops.

### TRADE NOTES.

**Valuable Timber Tract.**—Parties looking for good timber lands are invited to address Charleston Enterprise, care Manufacturers' Record. Information will then be forwarded regarding 20,000 acres situated in South Carolina, on navigable river, capable of cutting 2500 to 4000 feet.

**One Typewriter a Minute.**—The immense additions to the Remington Typewriter Co.'s factory at Ilion, N. Y., have been practically completed. The aim of these enlargements is to provide for the production of one typewriter a minute, a figure which the sales of the Remington typewriter are said to be rapidly approaching.

**Foundry and Machine Plant.**—Purchasers are sought for a modern machine shop and foundry which is now operating at full capacity. An extensive line of patterns is on hand; the plant is thoroughly equipped for general repair work, and manufactures a cotton press which is said to be in demand. This property can be obtained at a bargain price. Address Box 455, Meridian, Miss.

**Agency at San Antonio.**—An agency has lately been established with the San Antonio Machine & Supply Co., San Antonio, Texas, by the American Steam Pump Co., manufacturer of Marsh Steam Pumps and other well-known machinery. The American Steam Pump Co. made large additions to its plant last year, and this year added considerable machinery, and finds the indications are that this year's business will be much larger than that of 1902.

**Southern Hardwood Timber.**—The development of the extensive timber tracts located throughout the South continues steadily. Yet there are many thousands of acres of land awaiting purchase by companies who will build mills to cut the timber and put it on the market. Alfred S. Emerson of Murphy, N. C., offers for sale some 42,000 acres of hardwood timber land in his section. The property mentioned is in one body, and located on a railroad.

**Plunger Elevator Contracts.**—The Plunger Elevator Co. has just closed a contract through its New York sales agent, W. L. Lawton, with office at 17 Battery Place, for ten elevators for the new factory building of Eaton, Cole & Burnham Company at Bridgeport, Conn. The Plunger Elevator Co.'s New York office has moved from 156 Fifth Avenue to Room 509, Whitehall Building, 17 Battery Place. This move was occasioned by the demand for increased office space and by the desirability of a downtown location.

**Looking for Manufacturing Sites.**—An industrial organizer in the South has several inquiries from companies wanting to locate factories in advantageous locations. One plant requires poplar for making cigar boxes, also bass and lynn timber for an excelsior plant, also for a large band mill to cut hardwood, and can furnish from \$75,000 to \$100,000 capital. About 3,000,000 feet of poplar logs will be required annually. Individuals or business associations desiring to procure this important industry can secure further particulars by addressing P. O. Box 110, Washington, D. C.

**An Ideal Lubricant.**—Engineers who make a test of Albany Grease soon become convinced of its virtues as an ideal lubricant for all kinds of machinery. Confirming this is a letter recently received by Adam Cook's Sons, 313 West street, New York city (the

sole makers of Albany Grease), from R. E. Meyers, superintendent of Freeland (Pa.) branch of Hazleton Electric Light & Power Co.: "Your Albany Grease seems to be giving excellent results on our crossheads, and we are going to try some on main bearings of our engines, so kindly send us four more cups exactly like the other you shipped us."

**An Electrical Railway Proposition.**—A proposition for financing and constructing an electrical railway thirty miles long in Arkansas is being undertaken through Eugene Sheridan of 17 Broadway, New York. Mr. Sheridan is desirous of hearing from construction companies, bankers and others who are likely to become interested in such an enterprise. It is stated that light, ice and water works already built are also to be operated in connection with the railway, and that zinc, lead and timber lands will be included in the properties that will be acquired in connection with the proposed developments.

**Treadwell's Philadelphia Office.** Patrons of M. H. Treadwell & Co., Inc., New York office at 95 Liberty street, will be interested to know that the company has established an office in the Pennsylvania Building, Room 309, Fifteenth and Chestnut streets, Philadelphia. R. D. Granger will have charge of this branch. Mr. Granger was formerly connected with the J. Edward Ogden Co., New York, and later with the purchasing and sales department of Treadwell & Co. This well-known engineering corporation is transacting an extensive business, and finds its works at Lebanon and Myerstown, Pa., kept in full operation.

**Carolina Company's New Offices.**—Present and prospective buyers of Portland cement and similar construction supplies are asked to note that the Carolina Portland Cement Co. of Charleston, S. C., is moving into its new branch offices at Atlanta, Ga. The new quarters include offices and a commodious warehouse at Decatur and Pratt streets, where a large stock of cement and building materials will be carried. This company also has offices at Birmingham and stocks of its specialties at Atlantic and Gulf seaports from Baltimore to Galveston. It is understood that other offices and warehouses are proposed for other important cities.

**Ball Engines.**—National Steel Foundry Co., New Haven, Conn., recently purchased from the Ball Engine Co., Erie, Pa., a 400-horse-power tandem compound engine for direct connection to a 250-kilowatt generator. Among recent sales of Ball engines in Detroit, Mich., are: One 300-horse-power tandem compound direct-connected engine for the Packard Motor Car Co. for its new works in that city; two 150-horse-power tandem compound direct-connected engines for the Arcade Building; one 200-horse-power simple engine for the Wills Creek Coal Co., and three 300-horse-power simple engines, direct connected, for the Detroit Iron & Steel Co.

**Expert Reports Furnished.**—J. Trowbridge Bailey of the Engineering Company of America has completed an examination of iron, feldspar and graphite near Ticonderoga, N. Y. A. A. Steel of the company has been in New York to make report based upon the examination of properties in Colorado, New Mexico and Arizona. Dr. Joseph Hyde Pratt, having completed examinations in the West and Southwest, is doing some geological work in North Carolina for the company. C. W. Wheelock, general manager of the Engineering Company of America, is making a trip on business of the company in connection with the Chicago office. The Engineering Company has its main offices at 74 Broadway, New York.

**West Virginia Coal Mines.**—The extensive developments of coal properties on the Great Kanawha river are well known to the mining world. This region has immense quantities of marketable coal and coal for coke-making that is coming to the world's markets in greatly-increased tonnage each year. Although the territory is well covered at present, yet there are many properties, some developed and some undeveloped, that are offered to buyers. A property of 650 acres, carrying two seams of splint and one of coking coal, is now offered for sale. It is located on the Kanawha river and the C. & O. Railway, and has one mine now producing 100 tons of coal daily. Full particulars regarding this opportunity for investment can be secured by addressing Box 8, Lewistown, W. Va.

**Rowen & Street Building Trains.**—In the continued urgent demand for railway equipment throughout the South, as well as in other sections, many manufacturing establishments are finding good orders for their works. Southern builders of locomotives

and cars are not at all backward in supplying the railway equipment needed in their territory, and the Rowen & Street Equipment Co. of 301 Atlantic Building, Norfolk, Va., is prominent among the successful establishments. This company shipped last week an engine and eight cars, the locomotive going away under its own steam. The cars were built outright; the engine was rebuilt. The Rowen & Street Company's shops are at Suffolk, where it is repairing and building logging, flat, box and caboose cars and other styles of railway equipment.

**The Lending Ammunition.**—At the Atlanta tournament, August 8, high average was won by C. W. Phellis of the Hazard Power Co., J. W. Hightower of the Peters Cartridge Co. winning second average, both using Peters Ideal shells. At Glen Rock, Pa., August 6 and 7, Neaf Apgar, the Peters expert, was high on the first day, shooting 96½ per cent., Apgar and Luther Squires of the Dupont Powder Co. tying for general average with a fraction over 94 per cent. On August 5 and 6 at Brownsville, Pa., R. S. Denniker won high amateur average, using Ideal factory-loaded shells and Dupont powder. At Millvale, Pa., August 19 and 20, high average won by Jas. T. Atkinson with the same combination. Peters Cartridge Co., 98 Chambers street, New York, is much pleased at these records of its ammunition.

**New Department of Knox, George & Co.**—Owing to the large amount of civil engineering work found in the New Orleans territory (in connection with electric railway work), Messrs. Knox, George & Co., consulting engineers, have organized a civil engineering department. Frederic Brown, C. E., will take charge of the new department, with headquarters at the New Orleans office in the Tulane-Newcomb Building. Mr. Brown has had a number of years' experience in this work, both in the United States and the tropics, having been connected with a number of railway and mining enterprises in Honduras, Guatemala and Tehuantepec. Messrs. Knox, George & Co. design and build electric railways, lighting and power transmission plants, gas works, drainage and irrigating systems, etc. Their Chicago offices are in the Fisher Building.

**Stickel Machine Co.**—This company, which is introducing with great success a new anti-friction journal bearing, makes an interesting announcement concerning its plans. The directors met August 10 and 11 and decided not to build a factory just now, but to select a central shipping point, establish an assembly room, solicit bids for making the separate parts and assemble the parts at points where the journals will be put together and orders filled. Owing to the great demand for the company's improvement upon roller bearings, it has been decided that this is the most expeditious course to pursue. A large plant will be erected later on. The company's device saves power, and is operated without oil or lubricants. For the present the main offices are at Williamsport, Pa. N. McKusick is secretary.

**Recent Apex Orders.**—That satisfactory service is given by the Apex Equipment Co. in furnishing railway equipment, supplies, etc., is evidenced in the fact that so many large and important orders are given that company. Among the recent contracts completed by the company were the following: Specially-constructed standard-gauge hopper-bottom cars and some six-yard capacity standard-gauge two-way dump cars for the Ballston Terminal Railway Co.; some special flat cars for the Conneaut & Erie Company and other orders. The Apex Equipment Co. is also building for export to the Philippine Islands, to be used in harbor-improvement work by the United States government, twenty specially-constructed all-steel flat cars. One feature of these cars is that they are equipped with the John W. King patent steel underframe.

**S. M. Price Machinery Co.**—This corporation has been organized, and will supply only the best machinery and accessories for all kinds of industrial plants. It is located at Norfolk, thus commanding a large territory throughout the Southern States, and has already obtained and completed some important contracts. The company's purpose to give its patrons only the best and highest grade equipment manufactured is evident from the list of the best-known makers of machinery and supplies for whom it is selling agent. These include Henry Disston & Sons, saws and files; Lunkenheimer Company, high-grade steam specialties; Erie City Iron Works, engines and boilers; Laidlaw-Dunn-Gordon Company, steam pumps, air compressors and condensers; Middletown Machine Co., gas and gasoline engines; American Tool Works Co., lathes, planers,

chapters, radial drills, boring mills, vertical drill presses, etc.; New York Belting & Packing Co., belting, packing and hose, and other representative American machinery establishments. The S. M. Price Machinery Co. is composed of men who have been in this business for twenty years, and whose experience qualifies them to give only the most efficient service to purchasers of mechanical apparatus. S. Milnor Price is president; B. Basgalupo, vice-president, and Walter L. Graham, secretary. Their names will be familiar to many buyers in the Southern field; offices at 45-47 Commercial Place, Norfolk, Va.

**Scalfe & Sons' New Offices.**—Wm. B. Scalfe & Sons Co., Pittsburg, Pa., sole manufacturer of Scalfe and We-Fu-Go water-softening and purifying systems, will be represented in the future in Philadelphia by Duncan W. Patterson, M. E., with offices in Harrison Building, corner Fifteenth and Market streets, in place of Mr. Pierstine, whose offices were in the Bourse Building. Mr. Patterson has been handling the "Bachman" system of water purification, a continuous system, treating hot feed water under pressure, for the past two years, and has made a number of installations at some of the large iron works and furnaces, and is thoroughly familiar with water purification in all its branches. He will have charge of all of the work of Wm. B. Scalfe & Sons Co. in Eastern Pennsylvania, Southern New Jersey, Delaware, Maryland and Virginia in the water-purifying department.

**New McClave-Brooks Plant.**—Those who are interested in up-to-date steam-engineering appliances are well acquainted with the fact that the McClave-Brooks Company has kept pace with the requirements of modern practice. This company's various devices have earned a reputation with users that is daily being enhanced by the highest satisfactory service in many establishments. It is interesting to refer briefly to the new extensive manufacturing plant recently erected by the McClave-Brooks Company at Scranton, Pa. The plant is designed chiefly to make the appliances for boilers and other furnaces invented by William McClave, including McClave stokers, grates, "Argand" steam blowers, also iron and brass castings. This enterprise was originally established by McClave, Brooks & Co., who made the grates and blowers for about twenty years. A year ago the business was incorporated under the new title, and in order to meet growing needs the present plant was planned. The general dimensions of the establishment are 800 feet long by 300 feet wide, and the various buildings are equipped with the latest improved machinery obtainable, and with every device for facilitating economical production and prompt shipment. All the machinery is electrically driven with the exception of the blowers for the casting cupolas, and there is a power plant and electric-light equipment supplying the entire works. The best modern protection from fire damage is also provided. The main entrance is through an office building, back of which are the machine shop and erecting shop, and other buildings, all connected by an industrial railway. There is also every modern convenience for promoting cleanliness and comfort among the employees. The foundry is equipped with two cupolas, one being seventy-two inches in diameter and the other of smaller size, and an electric crane of 50-foot span is used for handling heavy machines and products. The electric crane is so arranged that it conveys metal expeditiously in the foundry and to and from the cupolas. Both cupolas are supplied by a pressure blower driven by a 35-horse-power engine. The power-house contains two engines of 100 horse-power each, direct connected to dynamos for power and light. Two boilers of 200 horse-power each are in position. Their furnaces are fitted with McClave stokers, which devices may be used with various grades of fuel, including small anthracite and soft coal, without change of construction. The coal is brought to the boiler-room by a conveyor, and is dumped into overhead bins, whence it flows by gravity into the hoppers of the stoker; the ashes are removed from the bottom of the pit by the conveyor system. The McClave stoker is operated by a positive action of the grate, and does not rely upon gravity. Ashes are removed at the lower end of the incline grate by means of an appliance known as an automatic cut-off. Further details could be given as to the brass foundry, cupola-house and other parts of the plant, all of which are arranged as found most desirable from experience and expert knowledge in designing a manufacturing plant of this character, so that every possible facility is afforded for economical, high-grade production. The company's officers are William McClave, president; Ross G. Brooks, vice-president; W. R. McClave, secretary-treasurer and manager.



# CONSTRUCTION DEPARTMENT.

## TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY.

The Manufacturers' Record seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

### ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

### WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

## ALABAMA.

Anniston—Steel Plant.—It is reported that a Pittsburg (Pa.) steel manufacturer is investigating with view to removing plant to Anniston and enlarging same at cost of \$1,000,000.

Anniston—Gold Mines.—De Sota Gold Mining Co. will equip its mines with new and additional machinery for increasing output.

Bessemer—Drop Forge Works.—Birmingham Drop Forge & Machine Co., William E. Nicholls, president and manager, has made final arrangements to locate \$100,000 drop forge works at Bessemer, and has awarded contract to J. E. Hollingsworth of Ensley for erection of necessary buildings.

Bessemer—Oil Company.—Standard Oil Co., New York, N. Y., will, it is reported, expend \$20,000 on improvements, which include eight large new tanks, warehouse and office building.

Birmingham—Coal Mines.—West Pratt Coal Co. has been incorporated, with capital of \$10,000, and privilege of increasing to \$100,000, as lately reported, for developing coal mines, and will have output of about 500 or 600 tons per day. Brown & Joy are engineers in charge. R. R. Stobert is president.

Birmingham—Real Estate.—Jemison Real Estate & Insurance Co. has increased capital from \$5000 to \$10,000.

Gainesville—Road Improvement.—Sumter county has voted to issue \$120,000 of bonds for road purposes. Address E. N. Kling.

Ensley—Roofing and Cornice Works.—Ensley Roofing & Cornice Co., organized by H. W. Speer and W. C. Davis, has purchased the tin-shop department of the Ensley Stove & Hardware Co., and will operate same.\*

Gadsden—Tile Works.—Tennessee Tile & Paving Co., Chattanooga, Tenn., has contracted with the city of Gadsden to pave the sidewalks in business portion of town with hexagon tile blocks, and will establish small plant at that point.\*

Girard—Chemical Works.—Chattahoochee Chemical & Mining Co. has been organized,

with capital of \$12,000, for manufacturing material for fertilizers and other chemicals. T. C. S. Howard is president, and Alvan Howard, secretary-treasurer.

Huntsville—Roller Gin Mill.—American Cotton Improvement Co. will establish roller gin mill at Huntsville.

Huntsville—Wagon Factory.—Wagon factory will be erected. Address J. R. Boyd, president Chamber of Commerce.

Mobile—Docks.—Ollinger & Bruce Dry-Dock Co. has let contracts for material for construction of new docks, which will be 220 feet long on the keel blocks, 85 feet wide, 11 feet deep, with deadweight capacity of 3000 tons; slip 30 feet deep, 115 wide and 200 feet long will be constructed outside the docks for the mooring of vessels.

Mobile—Gas Works.—Mobile Electric Light Co. has awarded contract for plant to make water gas.

Mobile—Ice and Fuel Company.—American Ice & Fuel Co., recently incorporated with capital of \$35,000, has increased same to \$45,000.

New Decatur—Power-house.—Decatur Light, Power & Fuel Co. will erect new power-house and install additional machinery at cost of \$40,000.

Silgo—Coal Mines.—Boyd Coal Co., Benjamin T. Boyd of Atlanta, Ga., president and general manager, has completed arrangements for development of its coal properties at Silgo, and will have output of about 500 tons per day. Tipple and other improvements necessary to development of the property have been completed, and work of mining will be commenced at once. Battery of fifteen coke ovens will be constructed.

Tuscaloosa—Timber Lands.—W. T. Joyce of Chicago, Ill., has purchased from T. P. Ayres 5000 acres of timber lands in Tuscaloosa.

## ARKANSAS.

Camden—Carbonate Company.—Standard Carbonate Co. has been incorporated, with capital stock of \$500,000, and Willard White, president; Harry L. Harcourt, vice-president, and M. G. Lide, secretary-treasurer.

Clarksville—Coal Mines.—Clarksville Anthracite Coal Co. has been incorporated, with capital of \$40,000, for development of coal mines, by C. L. Pyle, S. P. Hostler, Joe James, J. O. Blackard and others.

Fort Smith—Electric Light and Power Plant.—Sebastian County Electric Co., incorporated with capital stock of \$1,000,000 for constructing electric railway, will also furnish light and power to several towns. S. A. Williams is president; Warton Carnall, secretary-treasurer.

Little Rock—Elevator and Corn Plant.—T. H. Bunch will erect elevator with capacity of 150,000 bushels and corn plant of 1000 barrels of meal per day capacity.

Newport—Telephone System.—Farmers' Telephone Co. has been incorporated, with capital of \$100,000, for construction of telephone system, and will absorb the old Newport-Elgin line.

Perryville—Shingle Mill.—McKinnis Shingle Co. has been incorporated, with capital of \$10,000, for manufacture of shingles and lumber. J. P. McKinnis is president; G. B. Colvin, vice-president, and Charles E. Thomas, secretary-treasurer.

Russellville.—The Winn Gin Co., reported recently as incorporated with capital of \$15,000, will erect five gin plants with capacity of 250 bales of cotton each; O. H. Winn, president.

## FLORIDA.

Fort Barrancas—Water-works.—Frank Sutter of Pensacola, Fla., has contract at \$26,350 for water-works system at Fort Barrancas.

Holder—Phosphate Plant.—Dunnellon Phosphate Co. has awarded contract to McIver & MacKay of Ocala, Fla., for erection of another phosphate plant at Holder.

Jacksonville—Mercantile.—The Covington Company, conducting wholesale dry goods business, will incorporate, with capitalization of \$200,000.

Martel—Lumber Mills.—W. B. Johnson, Daniel A. Clark, Walter Ray and others have incorporated the Martel Lumber Co., with capital of \$25,000, for development of timber lands, manufacture of lumber, etc.

Miami—Bed-spring Factory.—Edwin Nelson will erect building 21x50 feet and equip same with machinery for manufacturing bed springs; capacity will be fifty beds per day.

Pensacola—Machine Shop and Foundry.—

W. F. Creary, E. E. Reese and J. C. Avery have incorporated the Gulf Machine Works, with capital of \$20,000, for conducting machine shop and foundry.

Tampa—Cigar Factory.—Galliano Havana Cigar Co. has been incorporated, with capital of \$200,000, to erect factory for manufacture of cigars. J. Fred Wilcox of Chicago, Ill., is president; Vicente Guerra of Tampa, vice-president, and Francisco R. Diaz of Tampa, secretary-treasurer. Address the vice-president for information.

Tampa—Plumbers' Supply Company.—Isaac S. Craft, H. Bomford, Perry G. Wall and E. W. Price have incorporated the H. Bomford Plumbing & Supply Co., for conducting general plumbing, mill, manufacturing and supply business, succeeding the present business of H. Bomford & Co.; capital \$50,000.

## GEORGIA.

Americus—Overall Factory.—W. S. Prather will establish overall factory, and will operate about fifty machines.

Athens—Cotton Mill.—Southern Manufacturing Co., reported previously as to equip mill of 4000 spindles, will also install looms. The spinning machinery has been bought and is being put in position.

Atlanta—Telephone System.—Gainesville Co-operative Telephone & Telegraph Co. of Gainesville, Ga., will construct telephone system from Atlanta, Ga., to Asheville, N. C.

Atlanta—Stove Foundry.—A. G. Rhodes, J. D. Rhodes and W. J. Wood have incorporated the Walter J. Wood Stove Co., with capital of \$3500 and privilege of increasing to \$50,000, for manufacture of stoves.

Atlanta—Umbrella Factory.—W. H. Taylor, 321 Austell Building, will establish umbrella factory.\*

Atlanta—Furniture Company.—J. B. Turner Co. has been incorporated, with authorized capital of \$50,000, for conducting general furniture business, by J. B. and H. L. Turner.

Augusta—Mercantile.—Chartered: Heath & Cooper Grocery Co., with capital of \$10,000, by A. T. Heath, F. L. Cooper and others.

Columbus—Furniture Factory.—R. Welland is interested in the establishment of furniture factory.

Fitzgerald—Mercantile.—Chartered: Mutual Co-operative Merchandise Co., with capital of \$10,000, by G. B. A. Kinard and others.

Hawkinsville—Water works.—City will vote September 14 on issue of bonds for construction of \$25,000 system of water-works, previously reported. Address The Mayor.

Lumpkin—Mercantile.—Chartered: R. F. Hobbes & Co., by R. F. Hobbes and others.

Montezuma—Knitting Mill.—Montezuma Manufacturing Co. will establish a knitting mill, erecting main building of brick, two stories high, 50x120 feet. About \$30,000 will be invested.

Rome—Pants Factory.—Rome Pants Co. will erect new three-story brick building at cost of \$15,000 and install additional machinery for doubling capacity.

Savannah—Shingle Mill.—Vale-Royal Manufacturing Co. will expend \$15,000 in enlarging and improving its shingle mill; capacity will be doubled.

Savannah—Foundry.—Georgia Car & Manufacturing Co. has about completed and will shortly put in operation new iron foundry built at cost of \$8000.

Tallahassee—Iron Furnace.—S. N. Noble and W. M. Kelley have incorporated the Southern Car Wheel Iron Co. for purpose of operating an iron furnace; capital \$100,000.

## KENTUCKY.

Barboursville—Gas-pipe Line.—M. C. Alford of Lexington, Ky., and J. A. McDermott of Barboursville have purchased the holdings in Knox county of the Tye Bend Oil Co., consisting of 600 acres, and have been granted franchise for construction of gas-pipe line into Barboursville.

Beard—Mercantile.—Chartered: Beard Mercantile Co., with capital of \$60,000, by S. E. and T. T. Magee and others.

Bowling Green—Stone Quarries.—Waldo Avery and associates of Saginaw, Mich., have optioned stone quarries and all the available stone lands in Warren county, including property of the Bedford-Bowling Green Stone Co., of which Levi Bloom of Louisville, Ky., is president, and will develop same on extensive scale, greatly increasing output.

Bowling Green—Foundry.—John Fenwick has purchased and will operate the Brown & Colburn foundry.

Cloverport—Real-estate Improvement.—Cloverport Real Estate & Improvement Co. has been incorporated, with capital of \$5000, by Marion Weatherford, A. A. Simons, V. G. Babbage and others.

Corydon—Coal Mines.—Magnolia Coal & Mining Co. will operate the property reported recently as being prospected by Edward D. Ball and O. T. Koontz. Capital is \$20,000.\*

Cumberland Falls—Water-power Development.—Plans of the Cumberland Falls Water-Power Co. for harnessing Cumberland falls and transporting power to Louisville and Cincinnati for illuminating or motive purposes have taken definite shape and arrangements have practically been completed, and actual work on construction of the plant will be commenced within the next few months. Surveys of the river for a distance of fifteen miles have been made. Plans include construction of stone dam 45 feet high, 550 feet long, 100 feet at base and 20 feet at top, which storage will enable the company to generate 20,000 horse-power a day; the electric current will be carried by double pole to the two cities mentioned above at 60,000 to 80,000 volts. Total cost of undertaking will be \$1,800,000, and it is expected to be completed in two years. Construction work will be commenced April, 1904. H. G. McDaugh is engineer in charge of the work, as was reported last week. H. C. Brunson is president of the company.

Grayson—Oil and Gas Company.—Grayson Oil & Gas Co. has been incorporated, with capital of \$150,000, by J. L. Spencer, P. C. Leete, R. C. Kicker and F. C. Goodwin.

Harrodsburg—Mineral-land Development.—Chinn Mineral Co. has been incorporated, with capital of \$10,000, for development of oil and mineral lands, by J. P. Chinn, George Morgan, George P. Chinn, C. D. Thompson and others.

Hawesville—Plow-fender Factory.—Kentucky Plow-Fender Co. has been incorporated, as recently reported, with capital of \$10,000, for manufacture of a patent plow-fender, and has not awarded contracts for erection of necessary buildings nor for machinery. Address J. C. Bowling, secretary.\*

Henderson—Flour Mill.—Kentucky Milling Co. will rebuild its flour mill, recently reported as burned at loss of \$30,000.

Jesse—Coal Mines.—Coleton Coal & Coke Mining Co., with capital of \$60,000, has been organized for development of coal lands.

Louisville—Mercantile.—Chartered: Jones & Miller Co., with capital of \$30,000, by Nicholas Miller and others.

Louisville—Woodworking Factory.—Wood Mosaic Flooring Co. of New Albany, Ind., is making extensive improvements at South Louisville in the erection and equipment of saw-mill; company will build branch plant at this point and eventually expend \$150,000 in construction of veneering mills, etc. Fifteen acres of land has been purchased as site for proposed plant, and company will also purchase timber lands from which to get the hardwood needed to operate its business.

Milton—Lumber Company.—Milton Lumber Co. has been organized, with capital of \$30,000, by Melvin Young, John Christian and W. Fields. Company will erect several stave mills at once.

Milton—Flour Mill.—A. R. & C. G. Crawford have purchased the old Milton flour mill, will repair and operate same; also convert a part of the building into brandy distillery.

New Haven—Brick and Tile Works.—Nelson Brick & Tile Co. has been incorporated, with capital of \$5000, by Joseph F. Boone, Francis Bowling, Sylvester A. Rapier and others.

Paducah—Lead Mines.—Paducah Mineral Co. has been incorporated, with capital of \$4000, by George O. Hart, C. E. Whiteside, Geo. C. Wallace and C. L. Cook, for development of coal mines.

Pine Top—Mineral Lands.—Pine Top Mineral Development Co. has been incorporated, with capital of \$60,000.

Point Leavelle—Turnpike.—Chartered: Point Leavelle & Hammock Turnpike Road Co., with capital of \$500.

Salt Lick—Lumber Company.—Salt Lick Lumber Co. has increased capital from \$30,000 to \$50,000.

Versailles—Ice Factory.—George MacLeod has purchased and will operate the Versailles ice factory.

Whitesburg—Telephone System.—Whitesburg Telephone Co. has been organized, with \$2000 capital, for constructing telephone system from Whitesburg to Stonega, Va. Address D. D. Fields, manager.

#### LOUISIANA.

Crowley—Rice Mill.—The improvements previously reported to be made by Eagle Rice Mill are nearing completion, and will increase milling capacity to 1200 barrels of rice per day; warehouse capacity will be 60,000 sacks.

New Orleans—Cannery.—Southern Can Co., Limited, has been incorporated and will establish cannery with capacity of 60,000 cans per day. Fred D. Becker and Theo. L. Volz are the promoters. Address 305 Hennen Building.

New Orleans—Construction Company.—Gulf States Construction Co., Limited, has been incorporated, with capital stock of \$2,000,000, for conducting general construction business, by Allan R. Beary, Scott E. Bier of New Orleans, Seely Dunn, St. Louis, Mo.; Murray F. Smith, Vicksburg, Miss.; John A. Lewis, Meridian, Miss., and others.

Rayne—Rice Mill.—Jefferson D. Marks of Crowley, La., and associates have purchased, will remodel and operate the Arcadia Rice Mill at Rayne.

Shreveport—Flour Mill.—Sun Milling Co., Limited, will rebuild its flour mill, recently reported burned at loss of \$80,000.

#### MARYLAND.

Baltimore—Brewery.—American Brewing Co. has awarded contract to Charles Hildebrand at \$16,000 for erection of three additional buildings for enlarging and increasing capacity of brewery; new structure will include three-story brick brewhouse 40x75 feet, two-story brick bottling house 25x43 feet, and two-story brick stable 33x100 feet. When improvements are completed capacity will be 300,000 barrels.

Baltimore—Manufacturing.—Kendall Manufacturing Co. has been incorporated under Delaware laws, with capital of \$100,000, by J. W. Scarborough, J. M. Williams, E. V. Brewington and others.

Baltimore—Machine Shop and Boiler Works.—E. J. Codd, reported lately as having purchased the Baltimore Marine Railway, Machine and Boiler Works and to reorganize and operate as the Marine Railway, Machine and Boiler Works, has, with Wm. C. Codd, Frank L. Mohler, Vernon V. Codd and J. Henry Baker, incorporated the company with authorized capital of \$10,000.

Baltimore—Chemical Works.—It is reported that John D. Rockefeller of the Standard Oil Co. is interested in the establishment of a number of chemical factories, the first three of which will be built at Baltimore, Washington and Philadelphia. The corporation which will control these factories is the Ava Chemical Co., which has its headquarters in New York. For further particulars address Secretary Arthur E. Ibbotson, 68 William street, New York.

Baltimore—Lumber Company.—Carroll Lumber Co. has been incorporated, with capital of \$10,000, by Carter G. Osborn, Charles T. Crane, John E. Marshall, Jr., and others.

Baltimore—Pants Factory.—Clifton Pants Manufacturing Co. has been incorporated, with capital of \$10,000, by Mitchell S. Pacholder, Morris Pacholder, Leon Rosenbaum, Benjamin Rosenheim and others.

Baltimore—Publishing.—People's Publishing Co. has been incorporated, with capital of \$25,000, for publishing weekly paper, by Francis A. Nallie, William Pohlmann and Frank H. Jones of Baltimore, Philip Lawrence and Marion Hoke of Huron, S. Dak., and others. Address 523 N. Penn street.

Hagerstown—Automobile Factory.—Steps are being taken for organization of \$200,000 stock company for manufacture of automobiles recently reported as contemplated by Robert R. Crawford of Philadelphia, Pa. Committee to take matter in hand has been appointed, and consists of W. H. McCordell, V. M. Cushman, S. H. Wellenmayer, Jon. K. Hoffman, Louis Rose and others.

Hyattsville—Sewerage System.—City contemplates constructing sewerage system. Address The Mayor.

Washington, D. C.—Bridge.—War Department has contracted with the Pennsylvania Steel Co. of Philadelphia, Pa., at \$61,000 for construction of highway bridge across Potomac river above the long bridge.

Washington, D. C.—Automobile Company.—Chartered: Willard Automobile Station, with capital of \$25,000, for dealing in automobiles, etc. Chas. Jacobsen is president; Louis

P. Hall, vice president, and Albert L. Kull, secretary-treasurer. Address 400-408 Fourteenth street N. W.

#### MISSISSIPPI.

Ellisville—Cannery.—Company will be organized with capital of \$5000 for establishing cannery. J. W. Speed and Orange Herrington are interested.

Greenwood—Furniture Factory.—Weems-Lockwood Furniture Co. is erecting four-story brick mill-construction furniture factory.

Indianola—Hardware Company.—Austin & Lockhart Co. has been incorporated, with capital of \$10,000, by F. R. Austin, W. M. Lockhart and others.

Kola—Lumber Mills.—Kola Lumber Co., reported recently as incorporated with capital of \$50,000, has plant already equipped with saw-mill, planing mill, sizers, lath and shingle mill.

Taylorsville—Cotton Gin.—Taylorsville Gin & Warehouse Co. has been incorporated, with capital of \$5000, as reported recently, and will erect buildings 25x50, 24x40 and 30x40 feet. W. P. Croft is architect in charge.

#### MISSOURI.

Clayton—Telephone System.—Company is being organized by F. A. Feldman, D. C. Taylor, Ernest Marshall, Fred Essen, Ed. Miller and others, for construction of telephone system.

Kansas City—Manufacturing.—Chartered: Wood-Smith Manufacturing Co., with capital of \$2000, by Fred Wood, J. S. Smith, Albert Smith and others.

Keener—Iron Mines.—E. W. Graves will develop iron-ore mine on his property near Keener.

Paris—Telephone Company.—Monroe County Mutual Telephone Co. has been incorporated, with capital of \$4500, by W. Jones, W. S. Wiley, J. M. Grigsley and others.

Poplar Bluff—Machine Shops.—Company has been organized, with capital stock of \$500,000, for manufacturing a new counting machine known as the addograph. J. L. Dalton of Poplar Bluff is president; V. Hoskins of St. Louis, Mo., vice-president; Birney Dyssart of St. Louis, secretary, and Frank P. Hayes of St. Louis, treasurer.

Sedalia—Electric Plant, Gas and Water Works, etc.—It is reported that an Eastern syndicate will secure control of the Sedalia Electric Light & Railway Co., Sedalia Gas & Fuel Co., Sedalia Water & Light Co. and the Economy Steam Heating Co., consolidate the concerns and operate under one management, having entire control of the city's water, light and heating supply and street-car service.

Slater—Stock Farm.—Chartered: Sunny Slope Farm, with capital of \$2000, by A. W. Avitt, Geo. H. Avitt and others.

St. Louis—Carriage Factory.—Union Carriage Co. will erect carriage factory at corner of Branch and Hall streets at cost of \$200,000.

St. Louis—Telephone System.—Kinloch Long Distance Telephone Co. of Missouri and the Buffum Telephone Co. of Louisiana, Mo., have made arrangements whereby their lines will be connected and extended.

St. Louis—Bakery.—Home Bakery Co. has been incorporated, with capital of \$50,000, by F. H. Hohengarten, John Hohenkamp, F. W. Gliese and others.

St. Louis—Realty and Improvement Company.—Hickory Realty & Improvement Co. has been incorporated, with capital of \$50,000, by H. C. Whiteside, J. T. Pettus and F. C. Rand, for conducting general real estate and construction business.

St. Louis—Sanitarium Company.—Central Sanitarium Co. has been incorporated, with capital of \$20,000, by Henry Vessey, H. E. Trues, Charles Fettebert and others.

St. Louis—Oil Company.—United States Oil Co. has been incorporated, with capital of \$25,000, by H. C. Grenner, Louis P. Alee and C. H. Lavesig, to develop oil lands, construct pipe lines, etc.

St. Louis—Trunk Company.—Chartered: Goldstein Lang Trunk Co., with capital of \$25,000, by Isador Lang, William Goldstein, Max A. Cohn and others.

St. Louis—Realty Company.—Chartered: Surkamp-Givens Realty Co., with capital of \$25,000, by John H. Givens, Henry Surkamp and others.

St. Louis—Investment Company.—Wellston Investment Co. has been incorporated, with capital of \$5000, by John H. Givens and others.

#### NORTH CAROLINA.

Burgaw—Woodworking Factory.—Burgaw Manufacturing Co. has been incorporated, with authorized capital of \$100,000, to do all kinds of veneering work, manufacture lum-

ber, crates, baskets, etc., by W. W. Batts of Burgaw, R. H. Johnson of Greeleyville, S. C.; G. T. Jones of Rocky Point, N. C.; E. McN. Carr of Faison, N. C., and others.

Charlotte—Cotton Mill.—Fidelity Manufacturing Co. has incorporated, with capital stock of \$500,000, and will take over and continue the Ada Manufacturing Co.'s plant, sold last month to the directors of the Ada Company. The mill's 12,000 spindles will be operated and 600 looms will be added. E. N. Clemence of Columbus, Ga., will be president and manager.

Clinton—Mercantile.—Chartered: Clinton Grocery Co., with authorized capital of \$25,000, by B. B. Southerland and others.

Drexel—Cotton Mill.—Huffman & Mull, T. P. Moore and others, all of Drexel, and New England parties, will build cotton-spinning mill to be capitalized at \$125,000. Further details will probably be announced soon.

Dunn—Table and Safe Company.—Dunn Safe & Table Co. has been incorporated, with authorized capital of \$25,000, by John W. Gooch, J. J. Wade of Dunn, John W. Hays of Petersburg, Va., and others.

Henderson—Cotton Gin.—Wester Cotton Ginning Co. has been incorporated, with capital of \$3000, by W. H. Wester, Geo. A. Rose, E. G. Davis and others.

Mebane—Chair Factory.—Continental Chair Co. will rebuild chair factory reported burned at loss of \$18,000.

New Berne—Lumber Company.—Atlantic Coast Timber & Lumber Co. has been incorporated, with capital stock of \$500,000, by D. J. Nyswander, C. H. Mills and J. T. Green, all of Toledo, Ohio.

Reldsville—Paper-box Factory.—Acme Manufacturing Co. has secured building for enlarging its plant and will install electrical equipment for lighting and power purposes; company is also interested in the development of a water-power for transmitting electricity to be used as motive power.

Waynesville—Gold Mine.—Charles G. Alston has discovered gold on his property, and will develop.

Wilmington—Telephone Exchange.—Interstate Telephone Co., W. W. Shaw, general manager, Durham, N. C., will make extensive improvements to its Wilmington exchange, and which will include underground wires and installation of complete metallic circuit system.

Wilmington—Paint Factory.—Monarch Paint Co. has been incorporated, with capital of \$20,000, by E. N. Balzer, P. Heinsberger, Jr., and Fred Mears, for manufacture of paints, solder, oils, acids, varnish, etc. Address 116 North Water street.

Winston—Water-works, etc.—City has voted affirmatively issue of \$100,000 of bonds for improvement and extension of sewerage system and water-works, and for street improvements. Address The Mayor.

Winston—Tobacco Factory.—Luffert-Seales Co. has been incorporated, with authorized capital of \$300,000, to manufacture tobacco, construct and operate warehouses, etc., by Frank J. Luffert, James L. Seales, James K. Norfleet and others.

#### SOUTH CAROLINA.

Charleston—Lime-Kilns.—Charleston Canning Co., William Felt, manager, will manufacture lime from oyster shells and install fifteen kilns of brick and stone with capacity of 2000 bushels of lime per day; cost \$15,000.

Columbia—Publishing.—Gus Speth of Augusta, Ga., will organize \$50,000 company for publication of newspaper in Columbia.

Florence—Machine Shops.—Atlantic Coast Line Railroad will remodel its machine shops at Florence and double capacity of same; J. R. Kenly, general manager, Wilmington, N. C.

Gaffney—Cotton Mill.—Marie Mills, reported incorporated in July with \$150,000 authorized capital, has decided not to build its plant until next spring. No details have been decided. E. R. Cash is the principal promoter.

Georgetown—Water-works and Sewerage.—City has issued \$75,000 of bonds for construction of water-works and sewerage system; W. D. Morgan, mayor.

Greenville—Furniture Company.—Symmes-Williams Furniture Co. has increased capital to \$10,000.

Killbuck—Brick Works.—Carolina Fire Brick Co. is installing machinery with capacity of 90,000 brick per day in addition to its present equipment of 25,000 brick capacity, and erecting a hot-air waste-heat dryer.

Latta—Cotton Gin.—The four 70-saw ginners, brick factory and grist mill being erected by O. C. Fore Ginning Manufacturing Co. will soon be completed, and operations will be commenced at once.

Ridgeway—Water-works.—Town contemplates construction of system of water-works from well as source of water supply, including hydrants, etc., for 1000 to 2000 inhabitants. Address The Intendent.

Walhalla—Bridge.—Board of county commissioners of Oconee county, South Carolina, and ordinary of Habersham county, Georgia, will award contract October 8 for rebuilding the Prather bridge over Tugaloo river.

#### TENNESSEE.

Brownsville—Mercantile.—F. J. Blackwell Co. has increased capital from \$10,000 to \$20,000.

Chattanooga—Real Estate.—National Home Securing Co. has been incorporated, with capital of \$10,000, by J. F. Johnson, J. R. Dean, Theodore Richmond and others, for dealing in real estate, etc.

Chattanooga—Candy Factory.—Trigg, Dobbs & Co. will erect six-story brick candy factory.

Chattanooga—Bottling Works.—Chartered: Coca Cola Bottling Works, with capital of \$9000, by W. M. Lasley, H. Pearce, B. T. Thomas and others.

Columbia—Granary.—Maury Granary Co. has been incorporated, with capital of \$30,000, by J. A. Sloan, J. D. Sloan, Grant Courtwright, W. B. Lockridge and others.

Gallatin—Mercantile.—Nalve-Spillers Company has increased capital from \$10,000 to \$25,000.

Hickman County—Phosphate Mines.—John H. Carpenter and J. W. Howard of Columbia, Tenn., have optioned 1000 acres of undeveloped phosphate property in Hickman county from the Leatherwood Phosphate Co. of Nashville, Tenn., and will begin active work of development at once, constructing branch railroad from the property to the main line, eighteen miles distant.

Jefferson City—Cannery.—M. P. Jarnagin contemplates establishing cannery.

Jellico—Coal Mines.—Dowdals Blue Gem Coal Co., with capital of \$10,000, has been incorporated for development of coal mines. W. E. Davis is president; D. W. Jones, vice-president, and G. E. Moore, secretary-treasurer.

La Follette—Laundry.—Mrs. J. M. Harmon has purchased, is improving and will operate the La Follette Laundry.

Memphis—Publishing.—Company has been organized with Fred B. Young, president; J. M. Han, secretary; C. H. Thompson, treasurer, and O. O. Howard, manager, for publication of the Southern Industrial Daily.

Memphis—Bag Factory.—Gulf Bag Co., R. J. Wood, manager, New Orleans, La., and San Francisco, Cal., will erect factory in Memphis for manufacture of all kinds of cloth and jute bags, and operate as the Memphis Bag Co. Three-story building, corner Davis avenue and Broadway, has been leased and will be equipped with latest improved machinery.

Memphis—Shoe Company.—Chartered: Memphis Shoe Co., with capital of \$15,000, by John C. Boyd, Albert Thies, Nathan D. Dodge, Jr., and others.

Nashville Soda Works. New three-story building is being erected in West Nashville for the Southern Soda Works Co. Capacity of plant will be greatly increased and machinery installed for manufacture of boxes.

#### TEXAS.

Austin—Hotel Company.—Seeling Hotel Co., with capital of \$100,000, has been incorporated by Ed. Seeling, Carl Lutetke and Walter Jacoby.

Beaumont—Oil Refinery.—United States Oil & Refining Co., with capital stock of \$300,000, has been incorporated for refining oil by C. A. Teagle, J. S. McNamara, John M. Conley and others for erection of oil refinery.

Beeville—Immigration Company.—Ray Aransas Land & Immigration Co. has amended charter, changing name to the Texas Land & Trust Co. and increasing capital stock from \$500,000 to \$400,000.

Cameron Light and Water Company.—Cameron Water, Power & Light Co. has increased capital from \$25,000 to \$50,000.

Granbury—Cotton Gin.—Winfield Scott is improving his cotton gin at cost of \$8000.

Granbury Oil Mill.—Jeff. Ryles, D. C. Cogdell, Nutt Bros. and Jesse Baker have organized company, with capital of \$30,000, for erection of oil mill.

Granbury—Flour Mill.—Flour mill is being erected at cost of \$25,000. A. G. Johnson may possibly give information.

Houston—Irrigation.—Tuscarawas County Rice & Irrigation Co., with capital of \$100,000, has been incorporated by Esau Watkins, W. B. Blair of Houston, Texas; John F. Denison of New Philadelphia, Pa.; C. A. Leach of Whitesville, Ohio, and others.



Houston—Oil Wells.—Humble Oil Co. has been incorporated, with capital of \$10,000, by James E. Ferguson, Sidney Westheimer and S. H. Brazier.

Houston—Lumber Mills.—Chartered: Ranger Hardwood Export Co., with capital of \$50,000, to construct and operate lumber mills, etc., by Julian Ranger of Houston, J. W. Kempner, J. H. W. Steele of Galveston, Texas, and Max Sandheimer of Chicago, Ill.

Jacksboro—Stone Works.—Risley Bros. & Co. has been incorporated, with capital of \$30,000, for quarrying and manufacturing stone, by Z. L. Risley, D. C. Horton and others.

La Porte—Mining.—Etrilap Mining Co. has been incorporated, with capital of \$25,000, for conducting general mining business, by H. P. McCoy, A. M. Shannon, N. McNeill, E. F. Sayers and S. P. Mattox, all of Harris county.

Lynchburg—Tobacco Factory.—Commonwealth Tobacco Co., Robert J. Sneed, manager, will enlarge its plant.

Midlothian—Cotton Gin.—Farmers' Gin Co. has been incorporated, with capital of \$6000, by L. O. Moore, S. A. Belew and A. J. Haynes.

Nacogdoches—Saw-mill.—Haywood Lumber Co., reported recently as contemplating the establishment of saw-mill near Nacogdoches, where it owns 40,000 acres of timber lands, has decided to build mill with cutting capacity of 100,000 feet.

Pearsall—Cotton Mill.—Mason Maney proposes organizing a \$100,000 company to build cotton mill.

Raymondville—Land Improvement.—Raymondville Town & Improvement Co. has been incorporated, with capital of \$25,000, for dealing in and improving real estate, by E. B. Raymond of Sunze, Texas; Robert J. Kleberg, Cesar Kleberg and John G. Raymond of Corpus Christi, Texas.

#### VIRGINIA.

Lunenburg—Telephone System.—Lunenburg Telephone Co. has been incorporated for constructing telephone system from Meherlin, Va., to Lunenburg. A. M. Bruce is president; E. P. Wallace, vice-president; M. E. Gee, secretary, and E. T. Staples, treasurer.

Martinsville—Telephone System.—Southern Bell Telephone Co. has applied for franchise for construction of long-distance telephone system at Martinsville.

Portsmouth—Land Improvement.—Local and outside parties have purchased the Wilson farm adjoining Park View, and consisting of fifty-four acres. Extensive improvements are contemplated, and include construction of bridge from the property to Park View and an extension of the bridge to Pinner's Point.

#### WEST VIRGINIA.

Alderson.—Alderson Drug Co. has been incorporated, with capital of \$1500, by J. W. Hutcheson and others.

Berkeley Springs—White-sand Works.—Keystone White Sand Co. has purchased additional properties and will erect mill of 400 tons of sand per day.

Elkins—Development Company.—Gassway Development Co. has been incorporated, with capital of \$300,000, by Arthur Lee, John T. Davis, W. H. Bower, Chas. S. Robb, all of Elkins, and others.

Fayetteville—Electric-light and Power Plant.—E. W. Becker and associates have franchise to establish electric-light and power plant, as recently reported, and will operate as the Fayetteville Light Co.; capacity 400 16-candle-power incandescent and 20 arc lamps of 2000 candle-power. E. L. Brown of Charleston, W. Va., is engineer.

Godfrey—Coal Mines.—Cephus Coal Co. has been incorporated, with capital of \$25,000, for mining coal, etc., by W. S. Harless, M. S. Harless, Godfrey, W. Va.; J. H. Hardy, Bluefield, W. Va.; T. D. Lee of Bramwell, W. Va., and others.

Grafton—Flour and Feed Mill.—Samuel A. Bambridge has purchased and will operate the Means Flour and Feed Mill, installing new machinery and other wise improving the property.

Grafton—Foundry and Machine Shops.—C. O. Newlon, F. A. Newlon, Andrew Z. Barbee of Shreveport, La., and G. A. Newlon of Weston, W. Va., have purchased the Carr foundry and machine shops at Grafton, and will organize \$25,000 company to operate same.

Martinsburg—Clothing Factory and Laundry.—Martinsburg Tailoring Co., reported lately as incorporated, will make men's tailor-made clothing and operate laundry.

Morgantown—Glass Factory.—Wm. M. Pease, Benton H. Pease, Geo. C. Sturgiss, D.

Clark Hoffman, Frank P. Corbin and others have incorporated the Penn Mirror & Manufacturing Co., with capital of \$50,000, for manufacture of mirrors, etc.

Morgantown—Gas and Oil Company.—Thomas Oil & Gas Co. has been incorporated, with capital of \$25,000, by D. C. Core of Morgantown, J. R. Moore, Mooresville, W. Va.; L. L. Thomas, T. T. V. Miller, Blacksburg, W. Va., and others.

Parkersburg—Purification Plant.—Plans are being prepared for purification of city water supply. Address J. V. Dunbar, city engineer.

Ritchie—Oil Company.—Clark Oil Co. has been incorporated, with capital of \$100,000, by E. Clark, Jr., W. A. Clark, C. C. Middlestewart, M. A. Hyde and J. Hyatt, Marietta, Ohio.

Phillippi—Stogie Factory.—Phillippi Stogie Co., reported lately as incorporated with capital of \$10,000 for manufacture of stogies, has completed organization, electing J. T. Manoun, president; Benj. F. Taylor, secretary-treasurer, and John F. Woodward, manager.

St. Marys—Lead and Silver Mines.—J. W. Hines, F. C. Percival, Wm. Kibbee and M. L. Barren will incorporate company for developing silver and lead properties near St. Marys.

Wheeling—Stockyards.—Union Stockyards Co. will, it is reported, make extensive improvements.

Wheeling—Hotel Company.—Chartered: Farmers' Hotel Co., with capital of \$10,000, by John E. Trunk, Jos. S. Benter, J. B. Handlan and others.

Wheeling—Coal Mines.—Beech Bottom Coal Co., Wellsburg, W. Va., Elmer Hough, chief engineer and general superintendent, has purchased 2220 acres of coal land near Wheeling for development, and has plant of 1500 tons per day capacity.

Wheeling—Blind and Shutter Factory.—George Roberts, reported several months ago as arranging for organization of company to manufacture a patent flexible metal shutter and blind, has, with others, incorporated the Metal Flexible Shutter & Blind Co., with capital of \$5000, and privilege of increasing to \$25,000. Site will be selected and arrangements made at once for erection of the plant. T. B. Auber will be president of the company; George Breinsen, vice-president; Jacob C. Boes, secretary, and F. A. Bell, treasurer. Mr. Roberts will be general manager.

#### INDIAN TERRITORY.

Loco—Refinery.—Loco Asphalt Refinery, burned at loss of \$60,000, will be rebuilt.

Muskogee—Garment Factory.—Muskogee Garment Manufacturing Co. has been incorporated, with capital of \$15,000, for manufacture of pants, shirts, cotton suits, overalls, etc.

Sapulpa—Water-works.—City will construct system of water-works; Ira C. Perkins, mayor; M. Griffin O'Neil, engineer, 191 Elm street, Dallas, Texas.

#### OKLAHOMA TERRITORY.

Alva—Oil and Gas Company.—Dickory Creek Oil & Gas Co. has been incorporated, with capital stock of \$500,000, by E. R. Allen, Louis Miller and J. A. Stein.

Blackwell—Electric-light Plant.—Blackwell Electric Light Co., Garrett Waite, manager, will install some additional machinery for increasing capacity.

Hastings—Oil and Gas Company.—Hastings Oil & Gas Co. has been incorporated, with capital stock of \$1,000,000, by Thomas Busby, C. L. Holland, Arthur R. Arnold, J. S. Saunders and others.

Lawton—Mining.—Empire Mining Co. has increased capital stock from \$500,000 to \$1,000,000.

Lawton Mining and Milling.—Queen Bee Mining & Milling Co. has been incorporated, with capital stock of \$3,000,000, by W. C. Moore, E. C. Epstein, W. F. Kerr, R. E. Morgan and others, all of Lawton.

Lawton—Mining, etc.—Consolidated Mining & Townsite Co., with capital stock of \$1,000,000, has been incorporated by J. M. Hubbard, J. M. Bellamy, A. N. Campbell and others.

Lawton—Mining.—Diamond Drill Mining Co. has been incorporated, with capital stock of \$1,000,000, by A. T. Catron, L. W. Richards, N. F. Shabery and others.

Lynn City—Townsite.—Chartered: Lynn City Townsite Co., with capital of \$2750, by J. W. McCool, J. S. Kerfoot and others.

Medford—Manufacturing.—Stetler Manufacturing Co. has been incorporated, with capital stock of \$500,000, by D. D. and D. E. Stetler of Medford, E. S. Downs of Kansas City, Mo., and others.

Oklahoma City—Viaduct, etc.—Choctaw, Oklahoma & Gulf Railroad will construct steel viaduct and make other improvements at cost of \$100,000; W. W. Wentz, Jr., general superintendent, Little Rock, Ark.

Oklahoma City—Mercantile.—Chartered: J. C. McCarthy Mercantile Co., with capital of \$100,000, by J. C. McCarthy and others.

Oklahoma City—Land Improvement.—Mexico Land & Improvement Co. has been incorporated, with capital of \$120,000, by F. T. Cook and E. G. West of Oklahoma City, C. P. Parmenter of Cordell and others.

Oklahoma City—Lumber Mills.—Oklahoma Box, Lumber & Manufacturing Co. has been incorporated, with capital of \$30,000, by A. R. Middlekoff, Philip Schlomer and others.

Putnam—Townsite.—Chartered: Putnam Townsite Co., with capital of \$25,000, by J. W. and H. W. Morrison of Independence, and Owen Campbell of Putnam.

Weatherford—Publishing.—Democrat Printing & Publishing Co., with capital of \$10,000, has been incorporated by John L. Campbell, W. B. Walker and C. R. Nation.

#### BURNED.

Bossier, La.—Louisiana Box & Lumber Co.'s plant; estimated loss \$45,000.

Carthage, Mo.—Independent Powder Co.'s powder mill damaged by explosion.

Mebane, N. C.—Continental Chair Co.'s factory; estimated loss \$18,000.

Norfolk, Va.—Imperial Guano Co.'s factory; estimated loss \$100,000.

Rocky Mount, N. C.—J. W. Hines' foundry and machine shops.

#### BUILDING NOTES.

\*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Ablene, Texas—Buildings.—Bids will be received at comptroller's office until September 10 for erection of laundry building, bakery building and barn at State Epileptic Colony at Abilene, Texas. Plans and specifications can be seen at John W. Robbins, treasurer; office, Austin, Texas; at office of W. P. Preston, architect, Abilene, Texas, and Sanguinett & Staats, Dallas, Texas. Each bid must be accompanied by certified check for 5 per cent. of amount of bid. Usual rights reserved. Bids will also be taken on electric wiring, plumbing and sewerage at the same time.

Athens, Ga.—Warehouse.—Southern Manufacturing Co. will build warehouse 60x160 feet, one story high.

Atlanta, Ga.—Apartment-house.—Harry L. Walker has completed plans and George T. Street will superintend work of construction of Marlborough Apartment-House, to be erected by the Marlborough Company; Geo. W. Howard, president; George Muse, vice-president, and W. W. Orr, secretary. Building will be of brick and stone, 80x150 feet, and contain all modern improvements.

Augusta, Ga.—Building.—McMurphy & Story have completed plans for the proposed Revell Building, and call for structure of white brick.

Baltimore, Md.—Home.—Louis Levi, 41 Central Savings Bank Building, has completed plans for new building for Hebrew Friendly Inn and Aged Home; structure will be 55x120 feet, of red brick, with stone and terra-cotta trimmings, and all modern improvements; cost about \$50,000. Drawings and specifications will be given to contractors for estimates September 1.

Baltimore, Md.—Dwellings.—George A. McCauley has awarded contract to Adolph Meyer for erection of sixteen two-story brick dwellings.

Barnesville, Ga.—Church.—First Baptist Church has awarded contract to Gresham Planing Mill Co. of Griffin, Ga., for remodeling and improving its structure at cost of \$8000. Plans were prepared by Bruce & Morgan of Atlanta, Ga.

Central, S. C.—Mill Building.—Cecil & Weaver of Lexington, N. C., have contract to erect mill building two stories high, 105x275 feet, also boiler and engine house 40x100 feet, at Central.

Clarksburg, W. Va.—Bank and Office Building.—Empire Building Co. has been incorporated, as recently reported, for erection of bank and office building 50x90 feet at cost of \$100,000. Architect has not yet been engaged, and no contracts awarded.

Clintwood, Va.—Jail.—Dickenson county will build jail after plans by B. F. Smith, Washington, D. C.

Collins, Miss.—Hotel.—F. L. Crump will erect hotel.

Columbia, S. C.—Flats Building.—J. B. Garfunkel will erect two-story flats building (not hotel, as reported lately). C. C. Wilson of Columbia is the architect.

Columbus, Ga.—Building.—E. P. Dismukes has purchased site at \$9000, and will erect three-story brick business building.

Dallas, Texas—Warehouse.—Texas Implement & Machine Co. is erecting warehouse.

Decatur, Ala.—Business Building.—Cowell & Love of Huntsville, Ala., have prepared plans for erection of business building at Decatur.

Dickson, Tenn.—Building.—First National Bank will improve and remodel Nesbitt Building, which it will occupy; William Roth, architect.

Dothan, Ala.—Courthouse.—George Leslie, probate judge, Dothan, Ala., will receive sealed proposals until November 2 for furnishing labor and materials for erection of new courthouse and jail in accordance with plans and specifications now on file in probate judge's office at Dothan, and prepared by Andrew J. Bryan & Co., 1104 Hennepin Building, New Orleans, La. Each bidder must submit with his proposal for courthouse certified check for \$2500, and also certified check for \$1000 with proposal for jail. Bond required and usual rights reserved. For information pertaining to plans and specifications, confer with the architects.

Forest City, N. C.—Buildings.—T. C. McBrayer will erect two three-story brick buildings and one one-story brick building.

Fort Worth, Texas—Business Building.—Sealed proposals will be received until September 10 for erection of a two-story brick business building 100x35 feet. Each bid must be accompanied by certified check for \$500. Plans can be seen at office of M. L. Waller, architect, Fort Worth.

Greenwood, Miss.—Church.—Bids will be received until September 20 for erection of brick church, with stone trimmings and slate roof, at Greenwood. Plans and specifications are on file in office of Gardner & McClurg at Greenwood. Usual rights reserved; W. T. Fountain, Greenwood, Miss.

Hattiesburg, Miss.—Depot.—Gulf & Ship Island Railroad has commenced erection of freight depot; Richard Morgan, general superintendent, Gulfport, Miss.

Hot Springs, Ark.—Hotel.—Chas. Eveland and brother will erect 40-room brick hotel.

Hoxie, Ark.—Y. M. C. A. Building.—C. W. Tetwiler of Poplar Bluff, Mo., has been awarded contract for erecting \$14,000 Y. M. C. A. building at Hoxie. Theodore C. Link of St. Louis, Mo., prepared the plans.

Huntsville, Ala.—Residence.—Cowell & Love have prepared plans for \$5000 residence for J. M. Hereford.

Jackson, Tenn.—Hotel.—Southern Hotel will be enlarged and improved at cost of \$20,000; improvements include installation of electric elevator, etc.

Jacksonville, Fla.—Business Building.—I. H. Armstrong will erect two-story brick business building.

Lillington, N. C.—Bank Building.—L. A. M. Moser has contract for erecting new building for Bank of Lillington, recently reported.

Macon, Ga.—Opera-house.—Denny & Ellis are preparing plans for converting building at corner of Mulberry and Third streets and owned by E. E. Park into a theater with seating capacity for 1500 people.

Memphis, Tenn.—Flats Building.—J. T. Crofford has accepted plans for proposed \$12,000 flats building.

Memphis, Tenn.—Engine-house.—Board of police and fire commissioners will have plans made at once for erection of new two-story fire-engine house.

Montgomery, Ala.—Schools.—Ausfeld & Chapman have completed plans, specifications and details for four new school buildings for city of Montgomery, three of which will be of brick, with terra-cotta and stone trimmings, and one of frame. Cost of buildings complete, including furnishings, will be about \$45,000. Bids will be received at office of city treasurer until September 10.

Nashville, Tenn.—Postoffice Extension.—Lowest bidders for extension of Nashville postoffice building were Miles & Bradt, Atlanta, Ga., whose figures were \$166,000.

Norfolk, Va.—Stables.—Little & Turner of Philadelphia, Pa., and Baltimore, Md., will erect \$50,000 livery stables in Norfolk.

Ocella, Ga.—Bank Building.—People's Bank will erect two-story office building, as lately reported, 40x134 feet. Architect has not been engaged and no contracts awarded. Address Warren Paulk, president.

Oklahoma City, O. T.—Lodge Building.—I.

O. O. F. will erect four-story building to cost \$40,000.

Paducah, Ky.—College.—B. B. Davis has prepared plans and specifications for \$18,000 college building of brick and stone, with all modern improvements, to be built at La Center by S. T. Payne, D. J. Rawlings, B. F. Bradshaw and others.

Richmond, Va.—Warehouse.—Roundtree Trunk & Bag Co. will erect five-story warehouse 50x100 feet.

Richmond, Va.—Hotel.—George L. Peyton and R. M. Berkeley have leased, will improve and operate New Ford's Hotel.

St. Louis, Mo.—Apartment-house.—George M. Phillips has awarded contract for erecting a five-story addition 25x155 feet to the Bluegrass Apartment-House at cost of \$50,000.

Tallulah Falls, Ga.—Hotels.—It is reported that a number of hotels will be erected from Cornelia, Ga., to Franklin, N. C., costing from \$10,000 to \$15,000 each. Walter I. Middleton of the Tallulah Falls Railroad may possibly give information.

Terrell, Texas.—Infirmary.—John L. Terrell, president board of managers, will receive proposals until September 12 for erection of two-story brick infirmary annex to North Texas Insane Asylum. Certified check for \$500 must accompany each bid. Bond required and usual rights reserved. Plans are on file in office of J. S. Turner, superintendent, and at office of C. A. Gill & Son, architects, Dallas, Texas.

Toccoa, Ga.—Hotel.—J. A. Burgess has purchased Hotel Edwards and will remodel and improve same. System of water-works will be installed for fire protection.

Washington, D. C.—Apartments.—John H. Nolan has had plans prepared for twenty brick houses of two apartments each by Geo. S. Cooper, 1413 G street N. W.; cost about \$2000 each.

Waynesville, Mo.—Courthouse.—County Court of Pulaski county will award contract September 8 for erection of the two-story brick courthouse lately reported. Address E. G. Williams, clerk County Court.

## RAILROAD CONSTRUCTION.

### Railways.

Blackwell, O. T.—The Denver, Enid & Gulf Railroad, which is surveying for an extension Northwest from Enid, will, it is reported, build to Hays, Kan., 170 miles from Guthrie. E. L. Peckham is vice-president and general manager.

Canyon, Texas.—The officers of the Amarillo, Plainview & Southern Railroad, recently incorporated to build from Amarillo to Plainview, seventy-five miles, are J. M. Donahue, president, Canyon, and L. F. Knight, vice-president; R. P. Smith, secretary, and J. H. Slayton, treasurer, all of Plainview, Texas.

Cheyenne, O. T.—The Cheyenne & Washita Valley Railroad Co. will, it is reported, immediately begin survey for its proposed line from Chickasha, I. T., to a point on the Santa Fe system in the Texas Panhandle, about 180 miles. John B. Harrison of Cheyenne and others are interested.

Cumberland, Md.—McArthur Bros., contractors for part of the 65-mile connecting link between the West Virginia Central and the Western Maryland Railroad, have, it is stated, 500 laborers en route from Montana and Wyoming, and will begin work immediately. There will be two large tunnels, seven bridges and some heavy cuts on McArthur Bros.' section.

Dallas, Texas.—The Missouri, Kansas & Texas Railway will, it is reported, build an extension of the Shreveport branch from McKinney to Denton. J. W. Petheram is chief engineer at Dallas.

Davenport, Iowa.—The Haywood Lumber Co. of Davenport will, it is stated, build a railroad ten or fifteen miles long to reach timber lands near its proposed mill at Nacogdoches, Texas.

England, Ark.—The England & Clear Lake Railroad Co. informs the Manufacturers' Record that rails have been laid from England to Lockville, nearly five miles, and surfacing and lining are being pushed as rapidly as possible. This will probably be as much as will be built this year.

Eureka Springs, Ark.—Mr. George L. Sands, vice-president of the St. Louis & North Arkansas Railroad, writes the Manufacturers' Record that the report that the company would build an extension from Marshall to Quitman is erroneous, at least so far as any immediate action is contemplated.

Fort Smith, Ark.—The Central Construction Co. is reported to have received the contract for building the Central of Arkansas Railroad from Dardanelle to Hot

Springs, fifty miles; president, F. A. Molitor of Fort Smith.

Fort Smith, Ark.—The Sebastian County Electric Co. has been incorporated to build a railway to connect Fort Smith with Jenny Lind, Greenwood, Huntington, Mansfield and Hartford, all mining towns, with branches to Montreal and Burma. S. A. Williams (president), Warton Carnall (secretary and treasurer) and H. G. Bollinger are the incorporators.

Fort Smith, Ark.—The Fort Smith & Western Railroad has completed tracklaying as far as Warwick, O. T., on the St. Louis & San Francisco Railroad, 186 miles from Fort Smith. H. A. Schwanecke is chief engineer.

Fort Worth, Texas.—The Rock Island will build its own terminals at Dallas. J. S. Peter is chief engineer at Fort Worth.

Fort Worth, Texas.—The first train has been run over the Dallas extension of the Rock Island. It was a special bearing an official inspection party.

Guthrie, O. T.—The extension of the Choctaw, Oklahoma & Gulf Railroad from Guthrie to Chandler, sixty miles, has been completed, and will be operated by the "Frisco" system.

Guthrie, O. T.—The incorporators of the Osage Railroad Co., to build a branch of the M. K. & T. from the Missouri, Kansas & Oklahoma to the Indian Meridian, eleven miles, are Horace Speed of Guthrie, O. T.; F. N. Finney of Milwaukee, Wis.; H. M. Flint of New York and C. N. Whitehead of St. Louis, Mo.

Hagan, Ga.—The Register & Glenville Railroad is reported building an extension from Coe to Glenville, six miles. W. C. Perkins is general manager.

Homer, La.—The Shreveport & Memphis Railroad, which proposes to build a line from Shreveport, La., to Memphis, Tenn., via Homer and Minden, La., has organized by electing officers as follows: A. K. Clingman, president; Thomas Crichton, vice-president; Sam G. Webb, A. McCranie, A. T. Nelson, A. Kinnebrew and J. N. Murrell, directors. The company will be capitalized at \$6,000,000.

Houston, Texas.—The Southern Pacific is reported to be building a line from Sour Lake to Saratoga, Texas. E. B. Cushing is engineer maintenance of way at Houston.

Lake Charles, La.—The survey is reported begun for the proposed electric railway from Lake Charles to Grandlake.

Laredo, Texas.—Twenty-one kilometers of grading have been completed on the Mexican National's line from Monterey, Mexico, to Matamoros, opposite Brownsville, Texas.

Maryville, Mo.—Mr. C. C. Graves, secretary of the Maryville & St. Joseph Electric Railroad Co., writes the Manufacturers' Record that the proposed line starts at Parnell, on the Chicago Great Western Railroad, and runs via Maryville, Graham, Fillmore, Savannah to St. Joseph, seventy miles; standard gauge; George Custer of Maryville, engineer in charge.

Milledgeville, Ga.—It is reported that the Milledgeville Railway may extend its line at Fort Wilkinson to connect with a line of steamers on the Oconee river.

Montgomery, Ala.—Messrs. Ausfeld & Chapman, civil engineers, inform the Manufacturers' Record that they are making a survey for the Hayneville Railroad, eight miles long, from Morganville, on the Louisville & Nashville, to Hayneville, the county seat of Lowndes county, Alabama. Grading begun August 31.

New Iberia, La.—Construction is reported begun on the electric railway to connect New Iberia and Morgan City. It will be forty-five miles long. Gen. F. F. Myles of New Orleans is prominently interested.

New Orleans, La.—The Louisiana & South-eastern Railroad Co. has published its charter, providing for a railway from a point at or near Thibodaux, La., southeast to a point at or near the town of Cutoff, La.; also in Lafourche parish, thirty-five miles, with power to extend. The officers are Jules Godchaux, president; C. S. Matthews, vice-president, and E. F. Dickinson, secretary and treasurer. The directors include the officers, besides Charles Godchaux and Sol Wexler.

Newport, Ark.—The Morning Star Railroad Co. will, it is reported, soon begin work on its proposed line between Newport and Yellville. John H. Keel and others are interested. The road will be about 100 miles long.

New York, N. Y.—Eugene Sheridan, 17 Broadway, is asking for propositions to build an electric railway thirty miles long in Arkansas. Advertisement in another column of this issue.

Pine Bluff, Ark.—The Pine Bluff & Western Railroad has been chartered to acquire the present line of the Pine Bluff & Western Railway from Pine Bluff to Sheridan,

and also to build an extension to Benton. The incorporators include W. W. Cargill of La Crosse, Wis., who is president of the old company; Clarence Green, auditor; C. H. Brown, general freight and passenger agent, and W. T. Radford, superintendent and chief engineer, all of Pine Bluff, besides M. A. Austin, M. Danaher, Jules T. Borresen, Geo. E. Gallagher, H. N. Lovedale and J. H. Ledbetter, also of Pine Bluff.

Pittsboro, N. C.—Construction has begun on the extension of the Durham & Charlotte Railroad to connect Pittsboro and Greensboro.

Pittsburg, Pa.—W. H. Skivington of Pittsburg is reported as saying that a standard-gauge railroad will be built between Humboldt and Dyersburg, Tenn., by him and others. A. D. Cunningham of Humboldt is reported in charge of the survey. The name of the road is the Tennessee Western Railroad, and it is to run via Alamo and possibly to the Mississippi river to a point opposite at Caruthersville, Mo.

Roanoke, Va.—The Nelson & Albemarle Railway Co. has been chartered to build a line six or eight miles long from Soapstone quarry to the Southern Railway; capital \$250,000. The incorporators are J. W. Foster, H. L. Lane, D. J. Carroll, F. V. Elsom, D. H. Pitts, J. G. Hopkins and George W. Bostwick.

Shawnee, O. T.—The Canadian-American Construction Co., authorized capital \$25,000, has been chartered to build the proposed Pan-American Railroad. The incorporators are Charles F. Beach, Jr., of London, M. L. Cushman and Charles M. Rawlings of New York, Charles B. Williams of City of Mexico, Ewers White of Austin, M. Coffin and William S. Pendleton of Shawnee. The principal places of business for the construction company are given as London, Paris, Amsterdam, City of Mexico, Winnipeg, St. Louis, New York, Chicago, Dallas, Galveston, Wichita, Pierre, S. D.; Grand Island, Neb.; Guthrie and Shawnee, O. T.

St. Louis, Mo.—The St. Louis & San Francisco Railroad is reported to have laid track on its Arkansas Valley & Western branch from Red Fork, I. T., to Pawnee, O. T., the line being under construction from Red Fork to Enid.

St. Louis, Mo.—Mr. B. L. Winchell, vice-president and general manager St. Louis & San Francisco Railroad Co., writes the Manufacturers' Record: "We have not as yet developed any plans for the extension of our line south from Brady."

St. Louis, Mo.—An eight-mile miniature railway is to be built on the World's Fair grounds, construction to start about October 1. T. G. Cagney, Planters' Hotel, St. Louis, is president, and Peter McGargle, Niagara Falls, N. Y., is chief engineer. The line will be operated by steam and will be a feeder of the intramural railroad. Cagney Bros. are the proprietors.

Tyler, Texas.—The report that the St. Louis Southwestern Railway will build new terminal and side-tracks at Rusk is officially denied.

Welsh, W. Va.—A. S. Johnston and others are reported to be interested in a plan to build an electric railway from Ronceverte, W. Va., to Lurich, Va., about thirty miles.

Wise, Va.—It is reported that the proposed electric line of the Cumberland Transportation, Light & Power Co. will be extended to Clintwood, Dickinson county. A meeting will be held September 4 to decide the matter. Henry M. Smythe of Wise and others are interested.

### Street Railways.

Baltimore, Md.—The United Railways & Electric Co. has begun laying heavy grooved rails (107 pounds to the yard) on Baltimore street.

Columbus, Ga.—The street railway has completed and put in operation its extension to Girard and Phenix City.

Dallas, Texas.—The city council has granted a franchise to the Dallas Consolidated Electric Street Railway Co. to lay tracks on Hickory street and to change the Exall Lake line to run out Lake avenue and other streets to Cedar avenue.

Florence, Ala.—Construction has begun on the street-car line.

Meridian, Miss.—The Meridian Street Railway has finished tracklaying on its big extension.

St. Louis, Mo.—The St. Louis & Valley Park Railroad Co. has applied for a franchise to build an electric railway from St. Louis via Fenton to Valley Park, with branches.

Wheeling, W. Va.—The Wheeling & Elm Grove Electric Railway will put down new rails. The extension to West Alexander is to be completed in a few days.

## Machinery, Proposals and Supplies Wanted.

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.**

**Air Whistles.**—The Walter A. Zelnicker Supply Co., St. Louis, Mo., wants names of manufacturers of air whistles to be used on naphtha and electric launches, automobiles and street cars.

**Boiler.**—Commonwealth Tanning Co., Hutson, Md., is in market for second-hand plain horizontal tubular boiler, no fixtures, of not less than 150 horse-power.

**Boiler.**—Town council, Big Stone Gap, Va., wants to buy new or second-hand 25-horse-power boiler and a steam pump capable of pumping a three-inch stream into water main at 100 feet elevation.

**Boiler and Engine.**—Continental Chair Co., Mebane, N. C., wants 100-horse-power boiler and 75-horse-power engine.

**Boiler and Engine.**—See "Machine Tools."

**Boilers and Engines.**—T. G. Herbert, 224 street and Georgia avenue, Washington, D. C., wants two 75-horse-power boilers to carry 100 pounds steam pressure, one 60-horse-power engine and one 100-horse-power engine.

**Boilers and Engines.**—See "Hoisting Engines, etc."

**Brick Machinery.**—Louis Le Talle, D. & D. Brick Co., Engle Pass, Texas, wants full information regarding manufacture of brick, including prices on machinery, etc.

**Bridge Construction.**—D. D. Bryan, city secretary, Houston, Texas, will open bids September 7 for replacing or rebuilding with wood the White Oak Bayou bridge in accordance with plans and specifications on file at office of City Engineer F. L. Dormant. Certified check for \$250 must accompany each bid. Bond required and usual rights reserved.

**Bridge Improvement.**—H. B. F. Macfarland, Henry L. West, John Biddle, commissioners, Washington, D. C., will open bids September 19 for widening the aqueduct bridge, District of Columbia. Blank forms of proposal, specifications and all necessary information may be obtained from the commissioners.

**Bridges and Road Construction.**—Commissioners' Court of Bexar county, Texas, will receive sealed proposals until October 10 for grading and constructing gravel roads and necessary bridges to amount of \$500,000, according to plans and specification to be had on application to Robert B. Green, county judge, after September 21. Address San Antonio, Texas. Usual rights reserved.

**Brush-making Machinery.**—J. R. Fordyce, Thomas-Fordyce Manufacturing Co., Little Rock, Ark., wants addresses of manufacturers of brush-making machinery to put bristles in clothes brushes.

**Cemetery Improvement.**—Capt. Archibald W. Butt, quartermaster, U. S. A., depot quartermaster's office, Washington, D. C., will receive sealed proposals in triplicate until September 28 for constructing stone walls, iron fences and improvement of grounds in Loudon Park (Maryland) National Cemetery. Plans and specifications can be seen at depot quartermaster's office and at office of superintendent of said cemetery. United States reserves usual rights.

**Conduit and Wiring.**—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids September 23 for installation of conduit and electric-wiring system for United States postoffice at Joplin, Mo., in accordance with drawings and specifications, copies of which may be obtained at office of supervising architect or at office of superintendent of construction, Joplin, Mo.

**Cork Machinery and Material.**—J. D. Ozler, Corinth, Miss., wants to purchase machinery to manufacture cork stoppers, and wants addresses of parties handling cork material.

**Cotton Hooks.**—Wm. W. Bierce, Ltd., New Orleans, La., are desirous of getting in touch with manufacturers of cotton hooks.

**Drainage Tunnel.**—B. S. Randolph, mining superintendent, Frostburg, Md., will receive



proposals until September 10 for driving drainage tunnel on property of Consolidation Coal Co. through the measure underlying the Pittsburg bed. Tunnel will be about 11,000 feet long, 7 feet high and 8 feet wide. Maps, profiles and specifications can be seen at company's office, Frostburg, Md.

Dredge.—J. C. Sanford, captain, engineers, United States engineer office, Witherspoon Building, Philadelphia, Pa., will receive sealed proposals until September 21 for constructing wooden single-screw suction dredge for Key West harbor, Florida. Information furnished on application.

Dry-kiln Plant.—Jacoby Furniture Co., York, Pa., wants second-hand Sturtevant hot-blast dry-kiln rigging, heater eight to ten feet high; fan six to seven feet in diameter; also engine to operate same; also wants about eighty two-wheel trucks four feet long, and about 1000 feet of track.

Electric-light Plant.—Fayetteville Light Co., Fayetteville, W. Va., is in market for machinery sufficient to generate 400 16-candle-power incandescent and 20 arc lamps of 3000 candle-power.

Electric Plant.—Proposals will be received until September 14 by Board of Awards, Baltimore, Md., for removing and replacing storage batteries in the courthouse electric plant. Each bid must be accompanied by certified check for \$500. Specifications to be had at office of Edward D. Preston, inspector of buildings. Usual rights reserved.

Electric Wiring, etc.—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids September 29 for installation of conduit and electric-wiring system for United States courthouse, postoffice and custom-house at Tampa, Fla., in accordance with drawings and specifications, copies of which may be obtained at office of supervising architect or at office of superintendent of construction.

Electrical Equipment.—Acme Manufacturing Co., Reldsville, N. C., wants prices on electrical equipment for lighting and power purposes.

Engine.—Penn & Rison, Danville, Va., are in market for second-hand 50-horse-power engine, Corliss preferred.

Foundry Equipment and Supplies.—Philippi Mine Supply Co., Philippi, W. Va., will purchase patterns and equipment for foundry, including cupola, foundry supplies, etc.

Gas Engine.—See "Saw-mill Equipment."

Grinding Machines.—Hardwick-Cornor Machine Co., 177-179 Elm street, Dallas, Texas, wants names of manufacturers of grinding machines for finishing saddlons.

Hoisting Engines, etc.—Anthracite Machinery & Supply Co., Allentown, Pa., wants to buy lot of wire cable and hoisting rope three-eighths to three inches diameter, new or second-hand; 15, 20 and 25-horse-power gasoline engines, lot of dynamos and engines, lot of wooden and iron tanks, new or second-hand, 1200 to 5000 gallons capacity; twelve 100 to 150-horse-power horizontal return tubular or locomotive boilers, also vertical boilers, pumps, engines, etc. Give full description.

Ice Machinery.—F. B. Powers, Racine, Wis., wants addresses of makers of machinery for ice factory and cold-storage plant.

Ice Plant.—Valley Ice Co., E. Smith Dinkel, manager, Bridgewater, Va., wants to buy two or three-ton ice-plant equipment.

Knitting Machines.—Victor H. Boyden, 309 Tucker Building, Raleigh, N. C., wants addresses of makers of machinery for knitting ladies' and gentlemen's "sweater" garments.

Laundry Equipment.—Martinsburg Tailoring Co., Martinsburg, W. Va., wants bids on laundry equipment.

Macadam Streets and Roads.—W. S. Quillen, chairman; J. W. Davis and Wiley Read, board of pike commissioners of Hamblen county, Merchants' National Bank Building, Morristown, Tenn., will receive sealed proposals until September 16 for grading and macadamizing certain streets and roads; appropriation \$50,000. Certified checks will be required with all bids, and successful bidder will be required to make bond for 50 per cent. of contract. Usual rights reserved. For specifications, forms of proposals and instructions to bidders, address chairman of the board. J. L. Ludlow of Winston-Salem, N. C., is consulting engineer.

Machine Tools.—Kentucky Plow-Fender Co., J. C. Bowling, secretary, Hawesville, Ky., wants 20-horse-power engine and boiler, threader, shear to cut 14-gauge sheet-iron, punch to punch seven one-quarter-inch holes in one-quarter-inch bar iron, all seven holes to be punched with one stroke, all machinery to be run by belt power; also wants small punch to punch one hole one-quarter inch square, run by belt power.

Machine Tools.—D. L. Casey Machine Co.,

Springfield, Ohio, is in market for good heavy boiler-plate punch with not less than a 24-inch throat and capacity of seven-eighths-inch holes in one-half-inch plate; also one heavy set of boiler-plate rolls.

Mill Supplies.—Grandview Lumber Co., J. A. Hill, manager, Grandview, Texas, is in market for mill supplies.

Mining Equipment.—Magnolia Coal & Mining Co., Corydon, Ky., wants to correspond with parties furnishing material for coal-mining purposes.

Naval Supplies.—Proposals will be received at bureau of supplies and accounts, Navy Department, Washington, D. C., until September 15 to furnish at navy-yard and navy laboratory, Washington, D. C., a quantity of incandescent lamps, carbons, electrical supplies, sand, broken stone, gneiss, granite blocks, Portland cement, brick, lumber, hardware, wire cloth, protractors, octants, thermometers, drawing instruments, dividers, boat and deck clocks, comparing and stop watches, binoculars, spy-glasses, clinometers, parallel rulers, zinc, ingot copper, sheet-iron, poaching and cylindrical tubs, air compressor and repairs and improvements to Naval Museum of Hygiene and Medical School. Blank proposals will be furnished upon application to the navy pay office, New York, N. Y., and the bureau of supplies and accounts, Navy Department, Washington, D. C.; H. T. B. Harris, paymaster-general, United States Navy.

Paving.—City recorder, Muskogee, I. T., will receive sealed proposals until September 9 for furnishing material and constructing vitrified brick paving, combination curb and gutter and cement walks; quantities approximately are 50,000 square yards vitrified brick paving on six-inch concrete foundation, 171,000 square feet cement walk on cinder or broken-stone foundation, 17,400' lineal feet of combination curb and gutter. Specifications, contracts, bidding blanks and instructions to bidder can be had of the city engineer. Usual rights reserved.

Peanut Roaster.—McKee & Henderson Co., Shelby, Miss., wants small gasoline peanut roaster, either new or second-hand.

Pipe.—Lewis Knitting Co., Sauquoit, N. Y., wants prices on second-hand iron pipe, six, seven and eight inch.

Pump.—See "Boiler."

Pumps.—See "Hoisting Engines, etc."

Railway Construction.—Eugene Sheridan, 17 Broadway, New York, N. Y., plans the building of a 30-mile electric railway (estimated cost \$400,000), and wants construction companies, bankers, contractors, etc., to make propositions regarding financing and constructing the road. Light, ice and water plants, already built, also to be operated in connection with the railway system. Assets will include zinc, lead and timber lands which can be profitably developed. For further details see advertisement of Eugene Sheridan in Manufacturers' Record of September 3, or write him for full details.

Railway Equipment.—See "Hoisting Engines, etc."

Railway Equipment.—Southern Pine & Cypress Co., 517 Blaz Building, Houston, Texas, is in market for about three miles of light steel rails, twenty-five to thirty pounds, and a 10 to 15-ton Shay engine.

Railway Equipment.—See "Dry-kiln Plant."

Saw-mill Equipment.—Finley Bros. Company, Chester, W. Va., may want 15-horse-power gas engine, jointer, band saw, cut-off saw, bench saw, small lathe and shaper.

Saw-mill Machinery.—E. E. Wilson, Gedsey, N. C., would like to correspond with dealers in saw-mill machinery.

Steel Shed.—Hugh McCloskey, president board of commissioners of port of New Orleans, La., 337 Carondelet street, will open bids September 15 for construction of the Celeste street steel shed; deposit \$2000. Plans, specifications, proposals, forms, etc., are on file at office of engineers, Coleman, Maloche & Villere, 1100 Hennen Building, New Orleans, by whom sets will be furnished on deposit of \$15. Usual rights reserved.

Street Paving.—Sealed proposals will be received until September 7 at office of R. S. Dinkle, Catlettsburg, Ky., for paving 15,000 square yards of Center street. Plans and specifications may be seen at office of mayor, engineer and city clerk.

Tile-block Machinery.—Tennessee Tile & Paving Co., 810 Chestnut street, Chattanooga, Tenn., wants a machine for making hexagon tile blocks.

Tinshop Material.—Ensley Roofing & Corning Co., Ensley, Ala., will be in market for material, etc., for tinshop.

Umbrella-factory Equipment.—W. H. Taylor, 321 Anstell Building, Atlanta, Ga., wants to correspond with manufacturers of um-

brella parts, such as steel rods, steel ribs, runners, etc.

Water-works.—Commission on water and water-works of Columbia, S. C., will give hearing at 4.30 P. M. daily at the council chamber at City Hall from September 8 to September 12, inclusive, to engineers and others on plans and propositions by which the city can erect water-works system with daily capacity for supplying not less than 10,000,000 gallons of pure water and the distribution of same; J. W. Babcock, chairman commission; A. W. Edens, clerk.

Water-works.—John Abbot Clark, city clerk, Cameron, Mo., will open bids September 15 for water-works system in accordance with plans and specifications on file in city clerk's office; cost of work \$59,000.

Well-drilling.—Proposals will be received by "Committee on Water and Sewerage," Wm. Bally, chairman, Louisville, N. C., until September 22, for driving one or more deep wells for public water-supply system. General specifications may be procured from T. H. Lacy, secretary. Each bid must be accompanied by certified check for \$100. Usual rights reserved.

Woodworking Machinery.—White-Hall Co., Dillwyn, Va., wants circulars from manufacturers of plow-handle machinery.

Woodworking Machinery.—Continental Chair Co., Mebane, N. C., wants prices on chair-manufacturing machinery, second-hand considered, including drop carving and embossing machine.

## TRADE NOTES.

Maple and Oak Flooring Demands.—As the merits of hardwood flooring for all kinds of structures become better known there is a rapidly-increasing demand for the product. Some American manufacturers have devoted their entire attention to manufacturing maple and oak flooring, the Thomas Forman Co., Ltd., of Detroit, Mich., being one of the leaders in this field. This company incorporated recently, succeeding the old firm, of which Thomas Forman has been the head, taking this action because of the necessity for increased capital in its business. The company secured many large contracts in the South this year for cotton mills, some of which amount to upwards of 400,000 feet. It is to the interest of all builders who contemplate erecting mills or any other buildings of which the floors will be subjected to hard usage to obtain estimates from the Forman Company. The Forman establishment is located so as to be able to give quick delivery to all points in the South, and the fact that its daily output is 50,000 feet of flooring indicates its ability to handle large contracts.

Allis-Chalmers Engine Sales.—Demand for high-grade engines—as indicated by the contracts of the representative engine-builders of the country—shows no diminution. Manufacturing establishments of all kinds, power plants and other industrial enterprises are ordering many Allis-Chalmers engines. The Allis-Chalmers Company, general offices in Home Insurance Building, Chicago, tells of many important contracts filled in its list of sales for July. More than thirty engines of different sizes are mentioned in the list. To Richmond (Va.) Cedar Works was furnished a 24-inch and 36x48-inch heavy-duty cross-compound Reynolds Corliss engine; Knox Construction Co., Chicago, two 20-inch and 40x48-inch heavy-duty cross-compound direct-connected Reynolds Corliss engines; Stillwell-Bierce & Smith-Valle Company, Dayton, Ohio, a 16x42-inch girder-frame Reynolds Corliss engine; Fourche River Lumber Co., Chicago, one 24x48-inch heavy-duty Reynolds Corliss engine, and one 20x42-inch heavy-duty Reynolds Corliss engine; Union Sugar Co., San Francisco, Cal., an 18x36-inch girder-frame Reynolds Corliss engine; Olds Motor Works, Lansing, Mich., a 16x42-inch girder-frame Reynolds Corliss engine; Homestake Mining Co., Lead, S. D., an 18-32-34-42-inch combined horizontal-vertical triple-expansion engine and three 320-horse-power Sederholm boilers; Lacey-Buck Iron Co., Birmingham, Ala., a 44-inch and 84x60-inch vertical standard furnace-blowing engine; Georgia Corliss Mills, Decatur, Ga., a 16x42-inch heavy-duty Reynolds Corliss engine, and to Memphis (Tenn.) Consolidated Gas & Electric Co. a 27-72x48-inch horizontal cross-compound heavy-duty direct-coupled Reynolds Corliss engine. The titles of the companies named are indications of what leading engine-users think of the Reynolds Corliss engines and other machinery built at the Allis-Chalmers works. Many other leading concerns are also named in the list of July sales.

New Spring and Steel Works.—Buyers and users of springs and steel will be pleased to have a brief reference to a new independent plant for that kind of product. The new

plant is owned by the Pittsburg Spring & Steel Co., Pittsburg, Pa., which incorporated last year with a paid capital of \$500,000. Having recently purchased from the Pressed Steel Car Co. an extensive plant, the company is fully equipped to manufacture elliptic and coil springs on an extensive scale and under satisfactory conditions of delivery. The plant is located on the Allegheny division of the Pennsylvania Railroad, between McCandless avenue and 52d street, Pittsburg. The site consists of five acres. The building equipment includes a main shop, 466 feet long by 112 feet wide, used as the principal spring shop; a building 325x60 feet, subdivided into boiler-room, engine-room, machine shop and blacksmith shop, and a third building, 150x47 feet, used as a steelhouse. The mill offices are located in another building. All the buildings are of structural steel and equipped with 10-ton electrically-operated traveling cranes for handling material their full length. Side tracks are so arranged in the yards that all buildings are accessible. Power is furnished through 40-horse-power motors arranged for group-driving. The electrical equipment is of Westinghouse manufacture. The plant is also thoroughly equipped with hydraulic appliances, including testing machines and hoists, etc. Natural gas is used exclusively in all the furnaces, but in addition a producer-gas plant is provided as an auxiliary, so that a shift may be made from one kind of fuel to the other in case of emergency. The engines are each connected to dynamos of 100 kilowatts capacity each, and ample provision is made for reserve. From this source current is furnished for both power and light. In every respect the plant is modern in the matter of equipment, and it is claimed to be the largest individual spring plant in the country. The organization is a strong one, and its members have the advantage of a thorough familiarity with the business on account of their long experience with the A. French Spring Co. D. C. Noble is president and treasurer (formerly secretary and treasurer of the A. French Spring Co.); T. H. Given, vice-president (president Farmers' National Bank, Pittsburg); L. C. Noble, vice-president (formerly Western manager A. French Spring Co., Chicago); George W. Little, assistant treasurer, and W. H. Gardner, assistant secretary (both formerly of the A. French Spring Co.). The directors are D. C. Noble, T. H. Given, Henry Alken (president Hydraulic Machinery Co., Pittsburg), James Neale (secretary Brown & Co., Pittsburg), H. K. Porter (president H. K. Porter Company, Pittsburg), L. C. Noble and T. N. Motley (president T. N. Motley Company, New York). The manufacturing department is in charge of John Proven, general superintendent (formerly superintendent A. French Spring Co.); C. F. Reese, foreman of the coil department (formerly of the same department A. French Spring Co.), and John Easton, master mechanic (formerly in charge of machinery department A. French Spring Co.). Many of these officers and heads of departments have had from fifteen to twenty-one years' experience, and it is stated that about 70 per cent. of the skilled mechanics have had a similar training of longer or shorter duration.

## TRADE LITERATURE.

Some Westinghouse Literature.—The latest Westinghouse literature comprises circulars 1044, 1048 and 1048A, describing the direct-connected railway generators, railway motors and type "S" motors for direct current. A full description of each class of equipment is presented, together with illustrations, diagrams and tables explaining the efficiencies of the several machines. Address Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Crucible Steel Bulletin.—Workers in steel will find timely and valuable information in "Sparks from the Anvil" for September. This publication is issued bi-monthly, and is devoted to the better knowledge of steel and its treatment. Case hardening versus hardening, tough steel versus brittle steel, annealing and case hardening, expansion and contraction of taps, etc., are subjects treated in the current issue. Address Crucible Steel Company of America, Pittsburg, Pa., for sample copies of the publication.

A Delighted Customer.—Southern-made saws of material, temper and workmanship that is warranted are giving satisfaction in numerous woodworking plants. One delighted customer of the Southern Saw, made by the Southern Saw Works of Atlanta, Ga., writes: "I have just returned from our mills, and the saw filers are highly pleased with the new saws purchased from you. I am delighted to be able to endorse them." A leaflet telling about the above letter has been issued by the Southern Saw Works.



The Ransome Mixers.—These mixers insure high-class work, and many engineers insist on their use in fulfilling important construction contracts. These equipments are planned for the greatest economy, and have afforded most satisfactory results—even better results than promised by the manufacturers—to the best-known engineers. For instance, Messrs. Libbey & Dingley of Lewiston, Maine, in referring to a mixer which they purchased, write: "We can with the mixer which we got last year do thirty yards per hour, and, we think, keep it up for ten hours." This machine was sold to mix only twenty yards per hour. Two up-to-date leaflets of the Ransome Concrete Mixer and other machinery of this character built by the Ransome Concrete Machinery Co. are now being distributed. Requests to the office at 11 Broadway, New York, will promptly bring full particulars regarding the devices.

Equipment of a Railway Shop.—For the distribution of electric power about the machine shop or manufacturing plant, the Crocker-Wheeler system possesses prominent and distinguishing characteristics. Standard apparatus is used throughout, with the motors readily applied to either old or new tools. A two-wire system furnishes power to the lights, cranes and constant-speed motors, with the addition of a balancing transformer and two intermediate wires for the variable-speed tools. The capacity of this balancer is but a small percentage of the total power of the motors on this circuit, but it provides six fundamental voltages, the basis of an economical, simple and efficient method of speed control. In the interest of those who may want to know about the perfection of such equipment there has been issued an illustrated pamphlet relating in some detail to the application of such a system to a modern machine shop. The publication can be obtained by addressing the Crocker-Wheeler Company of Amper, N. J.

The Gem Specialties.—There are numerous specialties used in and around mills, factories, power-houses and other industrial establishments. Such specialties are in many instances the product of manufacturers who devote their entire attention to designing and making them, so that the highest possible results can be obtained from their use, and the economy and efficiency of various kinds of plants thereby enhanced increased. Boiler cleaners, flexible shafts, pulley lubricators, flue scrapers, etc., may be mentioned as among the specialties referred to. One of the best known manufacturers in this field of endeavor is the Gem Manufacturing Co. of Pittsburgh, Pa. This company's Union Boiler Cleaners and the various other "Gem" products are in greatly-increasing demand. Gem Patent Oilers, Gem Loose Pulley Lubricators, Gem Flue Scrapers, Gem Flexible Shafts and other articles are well known to users for the valuable service they render. The Gem catalogue is one of the most complete publications of its kind now offered to buyers of this class of equipment, and it gives brief but full particulars regarding the various special devices produced at the Gem works. Details as to the Gem Plain Oilers, steel or brass, heavy mill oilers and torches, mill and foundry specialties, special work in dies, stamped steel, stamped brass, etc., are ready for the trade.

Concerning Iron-making.—As the first edition of the pamphlet "Concerning Iron-Making," by Ellisha Walker, has been exhausted, and as there is still a large demand for it, Fisk & Robinson of 35 Cedar street, New York, and Boston, have just issued a second edition, with several new illustrations of the works of the Buffalo (N. Y.) & Susquehanna Iron Co. This plant, which has been characterized by disinterested experts as the most complete, compact and best-equipped blast-furnace plant in existence, is now nearing completion. The structural work throughout is almost finished, and all efforts are centered on installing the blowing engines, pumps, electrical machinery and boilers. The greater part of the fire-brick lining of the stoves and stacks is already in place. The work on the ship canal between the property of the Buffalo & Susquehanna Company and that of the Pennsylvania Railroad Co. is being pushed forward rapidly. Upon the completion of the plant the ore steamers will come via this canal and unload directly at the company's wharves. The iron ore mines of this company in the Mesaba range at Hibbing, Minn., and in the Menominee range at Iron Mountain, Mich., and its coal fields in the Reynoldsville basin at Sykesville, Pa., are being rapidly developed. The shafts are sunk the required distances and the machinery is being assembled. The Iron Mountain mine is already shipping ore.

## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

### Review of the Baltimore Market.

Office Manufacturers' Record,

Baltimore, Md., September 2.

The past week in the Baltimore stock market was distinguished by a continuation of the dullness which has now prevailed for more than a fortnight. There was not even a ripple of excitement to disturb the surface of affairs. United Railways, Consolidated Gas, Seaboard and the other usually active features were all stagnant, save for a very few sales.

In the trading United Railways common sold at 103½, the incomes from 63 to 63½, the 4s at 92½ and ex. coupon at 90½. United Light & Power 4½s changed hands at 84, Consolidated Gas between 64½ and 65½, the 6 per cents. at 109, the 5s at 110½ and the 4½s at 100½; Seaboard common sold at 21 to 21½, but the preferred did not figure in the dealings at all. The 4s sold from 77½ to 78½ and the 5s at 101½ to 101¾; Cotton Duck 5s were traded in at 67½; G. B. S. Brewing incomes sold at 32, the 1sts at 49½ down to 48.

Fidelity & Deposit sold at 150 and 152 and Maryland Casualty at 47½. Western Bank at 39 and Mechanics at 20.

Other securities traded in were as follows: Carolina Central 4s, 94; Northern Central stock, 97 and 100; Norfolk Street Railway 5s, 106; West Virginia Central 6s, 110; South Bound 5s, 108; Atlantic Coast Line Consolidated 4s, at 92½ and 93, and ex. coupon at 90½; United States 4s, 1907, coupon, 108½; Western North Carolina 6s, 112½; National Enameling, common, 25; Georgia & Alabama Consolidated 5s, 106; Virginia Century, 90; Georgia, Carolina & Northern 5s, 107; Georgia, Southern & Florida 5s, 110; Baltimore City F. L. 5s, 1916, 118; Atlantic Coast Line, common, 112; Northern Central 4s, 102.

## SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended September 2, 1903.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte.....	100	150	155
Georgia Southern & Florida.....	100	40	40
Georgia Sou. & Fla. 1st Pref.....	100	95	95
Georgia Sou. & Fla. 2d Pref.....	100	67	75
United Railways & Elec. Co.....	50	106½	107½
Seaboard Railway Common.....	100	21¼	21½
Seaboard Railway Preferred.....	100	34	35
Atlantic Coast Line of Conn.....	100	200	200

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank.....	10	28	30
Commercial & Far. Nat. Bank.....	100	168	168
Drovers & Mech. Nat. Bank.....	100	255	255
Farmers & Mer. Nat. Bank.....	40	67	67
First National Bank.....	100	149	149
German Bank.....	100	107	107
German-American Bank.....	100	105	105
Manufacturers' National Bk.....	100	102½	102½
Merchants' National Bank.....	100	130	138
National Bank of Baltimore.....	100	115	115
National Bank of Commerce.....	15	26	26
National Exchange Bank.....	100	185	185
National Howard Bank.....	10	109½	109½
National Marine Bank.....	30	37	37
National Mechanics' Bank.....	10	22	22
National Union Bank of Md.....	100	190	190
Second National Bank.....	100	190	190
Third National Bank.....	100	190	190
Western National Bank.....	30	39	39

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
Central Real Estate & Trust.....	50	55	62
Fidelity & Deposit.....	50	150	160
International Trust.....	100	100	100
Maryland Casualty.....	25	50	50
Mercantile Trust & Deposit.....	50	145	160
Union Trust.....	50	61	65
U. S. Fidelity & Guaranty.....	100	130	140

Miscellaneous Stocks.	Par.	Bid.	Asked.
G. B. S. Brewing Co.....	100	11	11
United Elec. L. & P. Pref.....	100	1	2
Cotton Duck Voting Trust.....	100	1	2
Consolidated Coal.....	100	69½	75
Consolidated Gas.....	100	64½	66

Railroad Bonds.	Par.	Bid.	Asked.
Albany & Northern 5s.....	100	94½	95½
Atlanta & Charlotte 1st 7s, 1907.....	100	107	107
Char. Col. & Aug. 1st 5s, 1910.....	100	111	111
Char. Col. & Aug. 2d 7s, 1910.....	100	114	116
Columbia & Greenville 1st 6s, 1916.....	100	111½	111½
Georgia, Car. & North. 1st 5s, 1925.....	100	106½	107
Georgia South. & Fla. 1st 6s, 1945.....	100	109½	110
Georgia Pacific 1st 5s, 1922.....	100	118	118
Petersburg, Class A 5s, 1926.....	100	106	106

Petersburg, Class B 6s, 1926.....	116	116
Piedmont & Cum. 1st 5s, 1911.....	105	105
Raleigh & Augusta 1st 6s, 1926.....	117	118
Richmond & Danville Gold 6s, 1915.....	112	112
Savannah, Fla. & West. 5s, 1934.....	108	108
Seaboard & Roanoke 6s, 1916.....	105	105
Seaboard & Roanoke 5s, 1926.....	115	115
Southern Railway Con. 5s, 1904.....	112½	113½
Virginia Midland 1st 6s, 1906.....	102	102
Virginia Midland 2d 6s, 1911.....	110	110
Virginia Midland 3d 6s, 1916.....	112	112
Virginia Midland 4th 3-4-5s, 1921.....	107	107
Virginia Midland 5th 5s, 1926.....	107	107
West. North Carolina Con. 6s, 1914.....	112	114
West Virginia Central 1st 6s, 1911.....	110	110½
Wilmington, Col. & Aug. 6s, 1910.....	111	111½
Wilmington & Wel. Gold 5s, 1935.....	115	117½
Charleston City Railway 5s, 1925.....	104½	104½
Charleston Con. Electric 5s, 1920.....	81	81
Knoxville Traction 1st 5s, 1928.....	100	100
Newport News & Old Pt. 5s, 1938.....	106	106
Norfolk Street Railway 5s, 1944.....	106½	109
United Railways 1st 4s, 1949.....	90½	90½
United Railways Inc. 4s, 1949.....	63½	63½
Seaboard 4s.....	77½	78
Seaboard 10-year 5s.....	101½	101½
Lexington Railway 1st 5s.....	100	103½
Georgia & Alabama Con. 5s.....	105½	106½

Miscellaneous Bonds.	Par.	Bid.	Asked.
Mt. V. & Woodby Cot. Duck 5s.....	67	68	68
Mt. V. & Woodby Cot. Duck Inc.....	12½	15	15
G. B. S. Brewing 1st 3-4s.....	48	48½	48½
G. B. S. Brewing 2d Incomes.....	31½	33	33
United Elec. Light & Power 4½s.....	84	84	84
Atlanta Gaslight 1st 5s, 1947.....	102½	102½	102½
Consolidated Gas 6s, 1910.....	108½	110½	110½
Consolidated Gas 5s, 1939.....	109½	110½	110½

## SOUTHERN COTTON MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending September 1.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	75	75
Aiken Mfg. Co. (S. C.).....	90	90
Anderson Cotton Mills (S. C.).....	125	130
Arkwright Mills (S. C.).....	105	105
Augusta Factory (Ga.).....	64	64
Avondale Mills (Ala.).....	90	95
Belt Mills (S. C.).....	100	102
Bibb Mfg. Co. (Ga.).....	108½	108½
Brandon Mills (S. C.).....	96½	96½
Buffalo Cotton Mills (S. C.).....	101	101
Buffalo Cotton Mills (S. C.) Pfd.....	100	100
Cabarrus Cotton Mills (N. C.).....	122	122
Chiquola Mfg. Co. (S. C.).....	95	95
Clifton Mfg. Co. (S. C.).....	100	102
Clinton Mfg. Co. (S. C.).....	125	125
Columbus Mfg. Co. (Ga.).....	90	99
Courtenay Mfg. Co. (S. C.).....	125	125
Dallas Mfg. Co. (Ala.).....	90	90
Darlington Mfg. Co. (S. C.).....	97	97
Eagle & Phenix Mills (Ga.).....	100	100
Easley Cotton Mills (S. C.).....	99	101
Enoree Mfg. Co. (S. C.).....	85	85
Enterprise Mfg. Co. (Ga.).....	80	80
Expositio Cotton Mills (Ga.).....	150	150
Gaffney Mfg. Co. (S. C.).....	95	95
Granby Cot. Mills (S. C.) 1st Pfd.....	97½	97½
Granville Mfg. Co. (S. C.).....	108	108
Greenwood Cotton Mills (S. C.).....	102	102
Grendel Mills (S. C.).....	100	103½
Henrietta Mills (N. C.).....	200	200
King, John P. Mfg. Co. (S. C.).....	80	88
Lancaster Cotton Mills (S. C.).....	100	110
Lancaster Cotton Mills (S. C.) Pfd.....	100	100
Langley Mfg. Co. (S. C.).....	99	99
Lantern Cotton Mills (S. C.).....	170	170
Lockhart Mills (S. C.).....	95	100
Louise Mills (N. C.).....	95	95
Louise Mills (N. C.) Pfd.....	100	100
Manchester Cotton Mills (S. C.).....	90	90
Mariboro Cotton Mills (S. C.).....	107	107
Mills Mfg. Co. (S. C.).....	99	99
Mills Mfg. Co. (S. C.) Pfd.....	100	100
Monarch Cotton Mills (S. C.).....	95	95
Monaghan Mills (S. C.).....	99	102
Newberry Cotton Mills (S. C.).....	120	120
Norris Cotton Mills (S. C.).....	107	107
Olympia Cotton Mills (S. C.) Pfd.....	90	90
Odell Mfg. Co. (N. C.).....	58	102
Orangeburg Mfg. Co. (S. C.) Pfd.....	102	102
Orr Cotton Mills (S. C.).....	100	102
Pacolet Mfg. Co. (S. C.).....	107½	110
Pelzer Mfg. Co. (S. C.).....	165	170
Piedmont Mfg. Co. (S. C.).....	176	176
Poe, F. W. Mfg. Co. (S. C.).....	145	145
Richland Cotton Mills (S. C.) Pfd.....	97½	97½
Roanoke Mills (N. C.).....	98	98
Saxon Mills (S. C.).....	100	102
Sibley Mfg. Co. (Ga.).....	60	65
Southern Cotton Mills (N. C.).....	96	96
Spartan Mills (S. C.).....	135	140
Trion Mfg. Co. (Ga.).....	125	120
Tucapau Mills (S. C.).....	142	142
Union Cotton Mills (S. C.).....	157½	157½
Union Cotton Mills (S. C.) Pfd.....	100	102½
Victor Mfg. Co. (S. C.).....	129	135
Warren Mfg. Co. (S. C.).....	101½	101½
Warren Mfg. Co. (S. C.) Pfd.....	103½	107½
Washington Mills (Va.).....	30	30
Washington Mills (Va.) Pfd.....	90	101
Wilmington Cot. Mills (N. C.) Pfd.....	100	100
Wilkesett Mills (N. C.).....	118	118
Woodruff Cotton Mills (S. C.).....	95	97½

## Analysis of Railroad Earnings.

Spencer Trask & Co., bankers, William and Pine streets, New York, have compiled an analysis indicating the earning power per mile of several important railroad properties, including the Santa Fe, Baltimore & Ohio, Illinois Central, Southern, Missouri Pacific, Louisville & Nashville, Norfolk & Western and other systems. The figures cover earnings as reported for the fiscal year ending June 30, 1903, and afford an interesting basis of comparison. The amount of surplus applicable for dividends is also given, together with the percentage of surplus beyond fixed charges and dividend requirements. Two columns are devoted to net income yield based upon current market quotations. It is stated that the analysis

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**17 S. Calvert St., BALTIMORE.**  
 High-grade Investment Bonds, Municipal, Railway, Industrial.  
 Letters of Credit Available Everywhere.

**CONDENSED STATEMENT OF THE  
First National Bank of Richmond, Va.**

JUNE 9, 1908.

RESOURCES.	
Loans and Discounts	\$3,581,733.75
U. S. Bonds at par	612,500.00
Overdrafts	40.75
Other Stocks and Bonds	413,607.78
Banking House and other Real Estate	60,742.73
Cash and Due from Banks	903,196.70
	\$5,562,521.00
LIABILITIES.	
Capital	\$600,000.00
Surplus and Profits (net)	552,340.66
Reserved for Interest	7,658.78
Circulation	599,500.00
Deposits	3,389,622.31
U. S. and Va. Bond Account	408,800.00
	\$5,562,521.00

**Calvin N. McAdoo**

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**GREENSBORO, N. C.**

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New York Cotton Exchange.  
 New Orleans Cotton Exchange.  
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 Private Wires to all Exchanges.  
**Southern Securities a Specialty.**

Jacob Phinizy, Pres. Chas. G. Goodrich, Cash.  
 Hamilton H. Hickman, Vice-Pres.

**Georgia Railroad Bank,****AUGUSTA, GA.**

Capital, \$200,000.00 Undivided Profits, \$201,585.63  
 Commenced Business December 31, 1892.

Members Baltimore Stock Exchange.

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Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished. Private Wire to New York and Richmond.

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Capital, \$200,000. Surplus and Profits, \$75,000.

Prompt and intelligent attention to all business entrusted to us. Correspondence invited.

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 C. N. Evans, Cash. W. C. Wilkinson, Asst. Cash.  
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**Spencer Trask & Co.****BANKERS**

William &amp; Pine Sts., New York

**Investment Securities.**

Members New York Stock Exchange.

Branch Office, Albany, N. Y.

**Savannah Trust Company,**

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Capital, \$500,000.

Executes trusts of every description.  
 Accepts deposits and allows interest on daily balances.  
 Collections promptly handled.

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Dealers in RICHMOND, VA.

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Collateral Loans Negotiated.

**MARYLAND TRUST CO.**

N. W. Cor. Calvert and German Sts.

**BALTIMORE.**

CAPITAL, - - \$2,125,000.00

SURPLUS, - - 2,437,500.00

**A LEGAL DEPOSITORY FOR COURT****AND TRUST FUNDS.****SAFE DEPOSIT BOXES FOR RENT.**

Acts as Financial Agent for States, Cities, Towns, Railroads, and other Corporations. Transacts a General Trust Business. Lends money on approved security. Allows interest on special deposits. Acts as Trustee under Mortgages, Assignments and Deeds of Trust; as Agent for the Transfer or Registration of Stocks and Bonds and for the payment of coupons, interests and dividends.

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 Lloyd L. Jackson, R. N. Baker,  
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 Fred'k W. Wood, George C. Jenkins,  
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**Hugh MacRae & Co.****Bankers,**

MISCELLANEOUS SOUTHERN SECURITIES,

**COTTON MILL STOCKS**

WILMINGTON, N. C.

WASHINGTON, D. C.,

(Kellogg Building.)

**International Trust Co.**

OF MARYLAND.

**BALTIMORE.**

Capital, - - \$2,000,000.00

Surplus and Profits, \$1,550,660.12

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J. WM. MIDDENDORF, } Vice-Presidents.

EDWARD H. THOMSON, }

CHAS. D. FENHAGEN, Sec. and Treas.

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Pres. National Bank of Port Deposit, Md.

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Manufacturers' Record.

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Vice-Pres. Seaboard Air Line Railway.

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We respectfully solicit correspondence

with Banking Institutions and Corpora-

tions desiring the services of a well-

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**4 % Certificates  
of Deposit.**

Due March 1, 1908.

Interest payable quarterly.

**Coupon Certificates of \$1000 each.**

The above certificates are engraved, in coupon form, issued to bearer, with provision for registration of Principal, in denominations of \$1000 each, interest at four per cent. per annum, payable March, June, September and December.

The holder of these certificates, by giving sixty days' notice in writing, can obtain payment of principal on any interest date.

ISSUED BY

**The Continental Trust Co.****BALTIMORE.**

Capital and Surplus, \$5,340,000.

Interest paid on deposits subject to check.

Largest Capital of Any Bank or Trust Company in the South Atlantic States.

**RICHMOND TRUST**

AND

**SAFE DEPOSIT COMPANY.**N. W. Corner  
10th and Main Streets.**RICHMOND, VA.**

CAPITAL, \$1,000,000

Does a general Trust Company business. Acts in all Fiduciary capacities. Receives deposits and allows interest thereon.

President, - - JOHN SKELTON WILLIAMS,

Vice-Presidents, - JAMES H. DOOLEY,

- HENRY L. CASSELL,

Treasurer, - - LEWIS D. CRENSHAW, Jr.

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SISAL  
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New York

**"AMERICAN" TRANSMISSION**

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"A LITTLE BLUE  
 BOOK ON ROPE  
 TRANSMISSION"  
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*Rope*

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Universal Tobacco Co. Stocks,  
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American Writing Paper Co.  
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Alabama Steel & Shipbldg. 6s,  
Detroit & Mackinac, Stocks,  
Lanyon Zinc Co. 6s, 1929,

DEALT IN.

## TOBEY & KIRK,

25 Broad St., New York.

Established 1873.

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Audits and Examinations of Books and Accounts. Deviser of Successful  
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Chicago,  
New York Life Building.

Philadelphia,  
Arcade Building.

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Write for fourth edition of  
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poration." Official forms,  
estimates of cost and copies  
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WILMINGTON, DELAWARE.

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## STOCK AND BOND BROKER,

Southern Cotton-Mill Stocks a Specialty.  
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Electric Railway, Water Works, Light,  
Traction, Industrial and Mineral  
Properties and Securities  
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## Fidelity and Deposit Co.

OF MARYLAND.

Home Office, - BALTIMORE, MD.

Assets Over \$5,000,000.

Pioneer Surety Co. of the South.  
Becomes Surety on Bonds of every de-  
scription.

AGENTS IN ALL PRINCIPAL CITIES.

HARRY NICODIMUS, Sec'y and Treas. EDWIN WARFIELD, President.

## Guaranteed Storage Receipts Issued

For property stored on your own premises or in  
Public Warehouses. Also for Property stored  
in the warehouses of this Company.

All Receipts GUARANTEED by the FIDELITY  
& DEPOSIT CO. of Md.  
A HIGH CLASS COLLATERAL—Accepted in  
all money markets.

## Baltimore Fidelity Warehouse Co.

BALTIMORE, MARYLAND.

ALBERT G. OBER, President.  
T. E. WITTERS, Sec'y & Mgr.  
THOS. L. BERRY, Treasurer

## AGENCIES:

Equitable Trust Company, Augusta, Ga.  
American Trust & Banking Co., Atlanta, Ga.  
Other agencies will be established where needed.  
Correspondence Solicited.

payment of interest on bonds and the an-  
nual dividend of 7 per cent. on the pre-  
ferred stock there was left for the year a  
surplus of \$3,055,253.

## New Corporations.

The Mount Zion Deposit Bank has  
been incorporated at Mount Zion, Ky.;  
capital \$15,000.

The First National Bank of Chilton,  
O. T., has been authorized to begin busi-  
ness with \$25,000 capital; J. T. Nance,  
president; Charles W. Goodwin, cashier.

The Bank of Orleans, capital \$100,000,  
has published its charter at New Or-  
leans, La. Among those interested are  
Peter Hellwege, Eugene H. Roberts and  
others.

A dispatch from Elkton, Md., says that  
the sum of \$25,000 has been subscribed  
for a national bank and that application  
has been made to the comptroller of the  
currency.

The Eagle Investment Co. of Alva,  
O. T., has been chartered with \$10,000  
capital by S. L. Johnson of Okmulgee,  
I. T.; W. E. Rall, Louis Miller and John  
A. Stine.

The Citizens' National Bank of Bir-  
mingham, Ala., capital \$100,000, has been  
approved. The organizers are O. E.  
Smith, Frank Nelson, Jr., S. W. Smith,  
J. R. Vail and John H. Frye.

The Mutual Realty & Investment Co.,  
capital \$25,000, has been incorporated at  
Tampa, Fla., by W. B. Gray, John Sava-  
rese, C. E. Ball, C. E. Allen, L. W. Smith,  
W. G. Macon and Samuel Borchard.

A bank is reported in process of organ-  
ization at Carrollton, La.; capital \$100,-  
000. Among those interested in the move-  
ment are William R. Ker, J. Neinaber,  
Dr. Dorestein, B. Moree and M. de  
Lucas.

The First National Bank of Blakely,  
Ga., has been approved by the comp-  
troller of the currency. The organizers  
are A. G. Powell, of Blakely, Ga.; E.  
Hilton, J. G. Boyd, J. C. Chaney and  
E. M. Boyd.

The new bank at Crofton, Ky., has or-  
ganized by electing A. B. Croft president  
and O. A. West vice-president. The di-  
rectors also include M. Dulin, D. Y. Crab-  
tree, T. J. Tate, J. H. Brown and D. Y.  
Craynor; capital \$15,000.

The Bluff City Bank of Devall's Bluff,  
Ark., has been chartered, with author-  
ized capital of \$25,000, of which \$10,000  
is subscribed; president, Warren Max-  
well; vice-president, J. M. McClintock;  
secretary and treasurer, F. A. Hipolite.

The National Bank of Middlesboro,  
Ky., has filed its application at Wash-  
ington. The directors are E. S. Helburn,  
Jake Goodfriend, C. N. Miller, D. C.  
Swab, J. L. Manring, Tim Cockill, C. M.  
Woodbury, Ray Moss, George W. Al-  
brecht and R. C. Ford.

It is reported that Robert Smith, for-  
merly of Huntsville, Ala., but now of  
Florida, has been chosen for president of  
the new Bessemer National Bank of Bes-  
semer, Ala. Edward H. Lopez, one of  
the organizers, is reported as saying that  
\$100,000 capital has been subscribed. It  
is expected that the bank will be ready  
for business by September 15 or 20.

The Walkersville Savings Bank has  
been incorporated at Walkersville, Md.,  
with \$25,000 capital, by David Cramer of  
J., Brooke I. Jamison, Marshall O. Rans-  
burg, John Diehl, John H. Stauffer, C.  
Albert Nicodemus, George H. Cramer,  
Cephas M. Thomas, Clarence C. Fulton  
and Millard F. Geesey. Mr. Thomas is  
president, and Mr. Jamison, secretary.

The Valley Savings Bank has been in-  
corporated at Little Rock, Ark., capital  
\$50,000. The officers are H. H. Julian,  
president; A. B. Tapscott, vice-president;  
E. B. Kinsworthy, secretary; Dr. E.

Meek, treasurer, and W. W. Hurst,  
cashier and manager. The officers are  
also the directors, with the addition of  
C. A. Armstrong and Joe Engelberger.

The Citizens' Bank, capital \$40,000,  
has been organized at Norton, Wise  
county, Va., by the election of officers as  
follows: R. P. Bruce of Wise, president;  
R. Tate Irvin, Big Stone Gap, vice-presi-  
dent; W. S. Morris, Chilhowie, cashier.  
The directors are W. L. Moore and W.  
K. Hartman of Tazewell, J. D. Tate of  
Chilhowie, W. K. Brooks and M. M.  
Morris of Glade Springs, A. M. Kilgore,  
T. M. Pepper, H. H. Cosper, J. R. Mc-  
Nutt and W. Ritchard of Norton.

## New Securities.

Cape Charles, Va.—Bids will be re-  
ceived until September 14 for \$10,000 of  
sewer bonds. M. H. Stevenson is mayor.

Galveston, Texas.—The city will soon  
offer for sale \$100,000 of 5 per cent. fire  
department, city hall and public school  
bonds.

Huntsville, Ala.—The election to issue  
\$40,000 of bonds to refund the floating  
debt of Huntsville was carried by a good  
majority.

El Paso, Texas.—The attorney-general  
of Texas has approved \$60,000 of sewer  
bonds and \$50,000 of schoolhouse bonds  
issued by El Paso.

Greenville, Ala.—The \$36,000 of 5 per  
cent. courthouse bonds issued by Butler  
county were purchased by the Bank of  
Greenville at par and interest.

Houston, Texas.—The city will sell on  
October 1, bids being received until that  
date, \$100,000 of 40-year bonds for mar-  
kets, fire department and schools.

Abbeville, S. C.—The city of Abbeville  
will sell \$20,000 of 5 per cent. sewerage  
bonds. Bids will be received until Octo-  
ber 15. James Chalmers is city clerk.

Hobart, Okla.—The city has sold \$20,-  
000 of bonds to a light-and-water com-  
pany of Indianapolis, Ind., at 2 per  
cent. premium. The proceeds will be  
used for sewers.

St. Bernard, La.—The parish of St. Ber-  
nard will sell \$50,000 of 5 per cent. bonds,  
for which bids will be received until Sep-  
tember 7 by Lovinski Nunez, president  
of the police jury.

Georgetown, S. C.—The city will re-  
ceive bids until September 17 for \$75,000  
4½ per cent. water and sewer bonds. J.  
B. Steele is chairman of the commission-  
ers of public works.

Petersburg, Va.—The Virginia Consoli-  
dated Milling Co. of Petersburg has filed  
a mortgage to the International Trust  
Co. of Boston, trustee, to secure an issue  
of \$1,000,000 50-year 5 per cent. bonds.  
The milling company lately bought four  
cotton-mill properties and one flour-mill  
enterprise at Petersburg.

## Financial Notes.

The Logan County State Bank at Guth-  
rie, Okla., has been made a Territorial  
depository.

The Citizens' National Bank of Groes-  
beck, Texas, has increased its capital  
from \$25,000 to \$50,000.

The Farmers' Deposit Bank of Brand-  
enberg, Ky., has increased its capital  
from \$20,000 to \$22,500.

The National Bank of Commerce of  
Baltimore has been appointed reserve  
agent for the First National Bank of  
Belington, W. Va.

It is reported from Norfolk, Va., that  
the deal has been closed for the purchase  
of the City National Bank by the Na-  
tional Bank of Commerce.

The Gulf & Ship Island Railroad re-  
ports through Fisk & Robinson gross  
earnings July 1 to August 15 \$225,454,  
an increase of \$30,023 over the corre-  
sponding period of last year.



The clearing-house at Chattanooga, Tenn., reports for the first four weeks of August total clearings of \$2,919,038.04, which is an increase of \$814,130.63 over the clearings of the same period last year.

**New York City Excursion, \$5 Round Trip, Through the Deerfield Valley, Down the Hudson River, October 1, via the Boston & Maine Railroad.**

Of all the beautiful trips which are yearly offered, the annual excursion via the Boston & Maine Railroad to New York city is foremost.

This trip is via the famous Hoosac Tunnel Route, through the Hoosac mountains, along the Deerfield valley and the Berkshire hills, through a grand portion of Eastern New York State to Albany, N. Y.

A royal welcome will be extended at Albany, and special preparations have been made to entertain the visitors. From Albany, N. Y., the trip is via the steamer down the Hudson river. No painter can portray, neither can any description do justice to the scene which meets one's gaze, a succession of interesting places, historical landmarks, scenic landscapes, mountains, valley, caves and cliffs, palisades and forts—all are passed, and then when one enters the sound, what a sight, strange and interesting, meets the gaze. The view of New York harbor in the early morning is a scene impressive and interesting. Hundreds of crafts, sailing yachts, rowboats, tugs, fishing smacks and ocean liners are all playing their busy part. The beautiful steamer docks at Desbrosses-street pier and sightseeing in the city of New York commences. Go where you please, there are a hundred, yes, a thousand, points of interest in the metropolis.

Leaving New York the return trip to Boston is via the Fall River Line and to Providence and Worcester via the Providence Line steamers.

The rate is \$5 for the round trip from Boston, Worcester and Providence. The train leaves Boston at 8.55 A. M., October 1, arriving in Albany, N. Y., at 7.40 P. M. You can take the night boat for New York city, which leaves at 8 P. M. down the Hudson, and arrive in New York at 6 A. M., October 2, or you can stop one night in Albany, visit the interesting places in this city, and take the day line boat to New York city, leaving Albany at 8 A. M., October 2, arriving in New York at 6 P. M. that night. You can leave New York October 2 or 3 via the Fall River Line for Boston, or if you desire to stop longer in New York, upon depositing your ticket with \$2 at the dock office of the Fall River Line, the limit will be extended ten days.

Consider this trip for \$5! A ride through the "Hoosac Mountains," the "Berkshire Hills" and the prettiest portion of "Eastern New York State," a sail down the "Hudson River" and an ocean trip back to Boston in a palatial steamer. Round-trip tickets will be on sale at 322 Washington street, Boston, and at Union Station ticket office.

Tickets will be on sale on and after September 23.

## Hugh C. Risdon, Industries Located, Organized and Financed.

P. O. Box 110, Washington, D. C.

Send for Booklet on Southern Opportunities.

**Southern Towns:** If your town wants industries and can offer some capital, free sites or other inducements we will give you practical assistance and advice in locating industries with you.

**Manufacturers:** If you desire a change of location where better facilities with some assistance will be given you we can place you advantageously. We have no interests to serve save yours. Write us your wants and needs.

### HIGH GRADE

7 per cent. Preferred Stocks

in modern, up-to-date Southern Cotton Mills  
Other investment securities also.

F. C. Abbott & Company,  
Charlotte, N. C.

### PALMETTO BANK & TRUST CO.

COLUMBIA, S. C.

CAPITAL, \$250,000.

GENERAL BANKING BUSINESS TRANSACTED.

In the heart of the great cotton mill development of the South, our services are offered to investigate securities and enterprises. High class securities offered for sale.

## MOTTU, DeWITT & CO. Southern Investments, NORFOLK, VA.

Correspondence Invited.

### PROPOSAL.

#### DRIVING DEEP WELLS.

Sealed proposals will be received by the "Committee on Water-Works and Sewerage" of Louisville, N. C., up to 6 o'clock P. M. on the 22nd day of September, 1903, for the driving of one or more Deep Wells for a public water supply system. General specifications may be procured from the Secretary.

Each bid must be accompanied by a certified check for one hundred (\$100) dollars, drawn payable to T. H. Lacy, Secretary.

The right to reject any or all bids is expressly reserved.

WM. BAILEY, Chairman.

T. H. LACY, Secretary.

### FOR SALE.

Two 3-roller mills; granite rolls, 7 inches in diameter, 15 inches long. Made by Lehmann, Dresden, Germany. The outside roll is fitted with a worm gear. These mills are as good as new. Address

RINALD BROS.

1142 N. Hancock Street, PHILADELPHIA.

### FOR SALE.

30 H. P. High Grade Gas Engine,

which we are replacing with a larger one.

CENTRAL BRASS MFG. CO.

CLEVELAND, O.

## Hibernia Bank & Trust Co.

New Orleans, La.

Capital \$1,000,000 Surplus \$2,000,000

Deposits \$12,000,000

Transacts a general Trust and Banking business, offering every facility to Banks, Bankers and Corporations that their balances and responsibility warrant.

Foreign Exchange bought and sold.

Collections made on all points in the South.

Acts as Trustee under corporate mortgages for railroads and other corporations and as Registrar and Transfer Agent for stock.

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JNO. J. GANNON, Vice President.

CHARLES PALFREY, Cashier.

GEORGE FERRIER, Assistant Cashier.

P. L. GIRAULT, Assistant Cashier.

L. M. POOL, Assistant Cashier.

WYATT H. INGRAM, JR., Trust Officer.

### FOR SALE.

#### State of Georgia Registered Bonds.

\$1000 4½%, due January, 1906; \$1000 4½%, due January, 1908; \$1000 4½%, due January, 1910; \$8000 4½%, due July, 1915; \$5000 3½%, due January, 1933; \$5000 3½%, due January, 1934. Price on application.

MARTIN & BRO., Augusta, Georgia.

### Companies Organized Under Corporation Laws of Delaware.

The Laws furnish, at least expense, ample rights to stockholders, with minimum restriction upon corporate action. Charters perpetual, not subject to repeal by the Legislature. Copy of the Law, Blank Forms and Estimate of Expenses furnished by

DELAWARE CORPORATION CO.

16 Market Street,

WILMINGTON, DEL.

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Beaumont, Texas.

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8-in.	18 "	8-in.	11½ "	6-in. x 6-in. x ½-in.	
8-in.	22½ "	10-in.	15 "	6-in. x 6-in. x ½-in.	
9-in.	21 "	12-in.	20½ "		
9-in.	25 "	15-in.	30 "		
10-in.	30 "				
10-in.	31½ "				
12-in.	40 "				
12-in.	42 "				
15-in.	50 "				
15-in.	55 "				
18-in.	65 "				
20-in.	80 "				
24-in.	80 "				

All angles, channels and beams up to and including 15-in. x 50-lb. are carried in 60-ft. and 65-ft. bars; 18-in. 55-lb. beams in 30-ft., 35-ft. and 40-ft. bars; 20-in. 65-lb. beams in 35-ft., 38-ft. and 40-ft. bars; 24-in. 80-lb. beams in 40-ft., 45-ft. and 48-ft. bars.

## CASTINGS OF EVERY DESCRIPTION AND UP TO 10 TONS

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## PROPOSALS.

**TREASURY DEPARTMENT**, office of the Supervising Architect, Washington, D. C., August 22, 1903.—Sealed Proposals will be received at this office until 3 o'clock, P. M., on the 8th day of September, 1903, and then opened, for the installation of an elevator plant in the United States Court House and Postoffice at Minneapolis, Minn., in accordance with the drawings and specification, copies of which may be had at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

**TREASURY DEPARTMENT**, office of the Supervising Architect, Washington, D. C., August 20, 1903.—Sealed proposals will be received at this office until 3 o'clock, P. M., on the 23d day of September, 1903, and then opened, for the installation of a conduit and electric wiring system for the United States Postoffice at Joplin, Mo., in accordance with the drawings and specifications, copies of which may be obtained at this office, or at the office of the Superintendent of Construction at Joplin, Mo., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., August 25, 1903.—Sealed proposals will be received at this office until 3 o'clock P. M. on the 29th day of September, 1903, and then opened, for the installation of a conduit and electric wiring system for the U. S. Court House, Post Office and Custom House at Tampa, Florida, in accordance with the drawings and specification, copies of which may be obtained at this office or at the office of the Superintendent of Construction, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., August 29, 1903.—Sealed proposals will be received at this office until 3 o'clock P. M. on the 30th day of September, 1903, and then opened, for the installation of two electric passenger elevators in the United States Appraiser's Warehouse, New York, N. Y., in accordance with the drawings and specification, copies of which may be obtained at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

**BIDS** will be received until September 20 for the erection of a Brick Church, with stone trimmings and a slate roof, at Greenwood, Miss. Plans and specifications are on file in the office of Gardner & McClurg at Greenwood, Miss. The right to reject any bid or any part of a bid is reserved.  
W. T. FOUNTAIN,  
Greenwood, Miss.

**NOTICE** is hereby given that the Commission on Water and Water-Works of the City of Columbia, S. C., will give hearing at 4:30 P. M. daily at the Council Chamber at the City Hall from September 8 to September 12, inclusive, to engineers and others on plans and propositions by which the City of Columbia can erect a water-works system with a daily capacity for supplying not less than 10,000,000 gallons of pure water and the distribution of the same.  
J. W. BABCOCK, Chairman Commission.  
A. W. EDENS, Clerk.

## PROPOSALS FOR TUNNEL.

**PROPOSALS** for driving drainage tunnel on the property of the Consolidation Coal Company through the measures underlying the Pittsburgh bed will be received by the undersigned up to September 10, 1903. Tunnel will be about 11,000 feet long, 7 feet high and 8 feet wide. Maps, profiles and specifications can be seen at the company's office, Frostburg, Maryland.  
B. S. RANDOLPH, Mining Superintendent.

## Notice to Contractors.

For the furnishing of labor and materials for the erection of a new Courthouse and Jail, in accordance with the plans and specifications now on file in the Probate Judge's Office at Dothan, Ala., and prepared by Andrew J. Bryan & Co., Architects, of New Orleans, La., 104 Tennen Building, and under their supervision, the Board of County Commissioners of Houston County, Alabama, will receive bids up to 12 o'clock noon, Monday, November 2, 1903, at which time the same will be opened. All bids must be addressed to the "HON. GEORGE LESLIE," Probate Judge, and marked "COURT HOUSE PROPOSALS." The same must be in his hands on or before 12 o'clock of the above day, or they will not be received. Each bidder must submit with his proposal for the Courthouse a certified check in the amount of Twenty-five Hundred (\$2500) Dollars, and also a certified check with his proposal for the Jail in the amount of One Thousand (\$1000) Dollars, as a guarantee of good faith that he will, if his bid should be accepted, make and execute a Surety Company Bond satisfactory to the Board, in the amount of the Contract Price for each building. In failure so to do, in either case, the check so submitted will be forfeited to the County as damage.

The two buildings will be constructed of such materials as are set forth in the plans and specifications. Concrete footings, hard-burned brick laid in cement in foundations. The exterior will be press brick and stone; the roof covered with slate, and the floors to be fireproof construction. Ceilings to be stamped steel.

Payments to be made in cash.  
For information pertaining to the general financial conditions of the County, confer with Hon. George Leslie, Probate Judge. For information pertaining to plans and specifications, confer with the architects. All persons desiring to bid on the above work can secure plans and specifications upon application to the architects, together with proposal sheets. The Board of County Commissioners reserves the right to accept any or reject all bids.

\$75,000.00

CITY OF GEORGETOWN, S. C.  
Four and one half per cent. Water Works and Sewerage Bonds FOR SALE.

Sealed proposals will be received by the undersigned Commissioners of Public Works of the City of Georgetown, South Carolina, until 12 M., September 17th, 1903, for the purchase of Seventy-five Thousand Dollars (\$75,000.00) Four and one half per cent. Water Works and Sewerage Bonds.

Bonds dated December 1st, 1903, payable Forty years from date with privilege of redemption twenty years from date.

Certified check for \$1000, payable to order of J. B. Steele, Chairman Board of Commissioners of Public Works to accompany all bids, and to be forfeited in case of failure of purchaser to comply with his bid. Address all bids to the Board of Commissioners of Public Works of the City of Georgetown, S. C., and endorse plainly upon envelope the words "Bids for Water Works and Sewerage Bonds."

For further information, if desired, apply to J. B. STEELE, Chairman.

J. B. STEELE, REID WHITFORD, J. I. HAZARD, Commissioners of Public Works.  
Georgetown, S. C., Aug. 15th, 1903.

**ELECTRIC RAILWAY**.—Length, 30 miles; estimated cost, \$400,000. Easy grade, no large rivers to cross, cheaply built. Business accumulating fast. "Greatest little road in the United States." Financial estimate: Visible income, \$246,375; operating expenses, including interest on bonds, \$63,107; net earnings, \$183,268. Over 45 per cent. on cost of road, and on minimum business obtainable. Company owns light, ice and water plant, whose earnings alone will pay 1½ per cent. on bond issue of \$500,000 of the Railway Company. Bond issue to be \$500,000 first mortgage 5 per cent. gold bonds, with sinking fund, redemption, etc. Will, however, be made to suit purchaser's views. Also assets of the company will be fine zinc, lead and timber lands, which ought to prove a fortune in itself. Wanted construction companies, contractors, bankers, etc., to make proposition to finance and construct based on above estimate, or buy bond issue or any part, with stock bonus. Road located in Arkansas.  
EUGENE SHERIDAN,  
17 Broadway, New York.

ABBEVILLE, SOUTH CAROLINA.  
\$20,000.

**SEALED PROPOSALS** will be received until October 15th, 1903, at 6 o'clock P. M., for the purchase of twenty thousand dollars sewerage bonds of the City of Abbeville, bearing interest at five per centum per annum (payable annually or semi-annually, to suit purchaser), maturing forty years from date, with option of payment after twenty years from date. Denomination to suit purchaser, except must be \$1000 or less. Bonds dated October 15, 1903.  
Assessed valuation of city property is \$1,193,226. Real valuation \$2,500,000. The total debt with this issue is \$71,300. Population, 4500. Right is reserved to reject any and all bids. All bidders must deposit certified check for \$200 to insure sale if bid accepted.  
JAMES CHALMERS, City Clerk.

## WATER WORKS FRANCHISE.

HOUSTON, TEXAS, August 14, 1903.  
Sealed proposals addressed to D. D. Bryan, City Secretary of the City of Houston, Texas, will be received up to 12 o'clock noon Monday, Sept. 14, 1903, for a twenty-one year franchise for a water works plant to be located in the City of Houston, Texas. The plant must be adequate for the needs of a growing city with a population now estimated at 70,000, and must be constructed with the view to furnishing good, pure water, and at such a price as will compensate the city for the franchise to be granted.

Bidders will indicate what compensation they will be willing to give in consideration for the franchise, and what concession they will allow in the way of water rates.

The city reserves the right to reject any and all proposals.

D. D. BRYAN, City Secretary.

O. T. HOLT, Mayor.

## COUNTY JAIL.

**SEALED PROPOSALS** will be received by the Commissioners of Brunswick County, at their office in Southport, N. C., until 2 o'clock P. M., Monday, September 28th, 1903, for the construction of a County Jail with steel cells. Plans and specifications can be obtained from the Clerk of the Board of Commissioners, or can be seen at his office.

M. C. GUTHRIE, Chairman County Commissioners.  
Southport, N. C., August 21st, 1903.

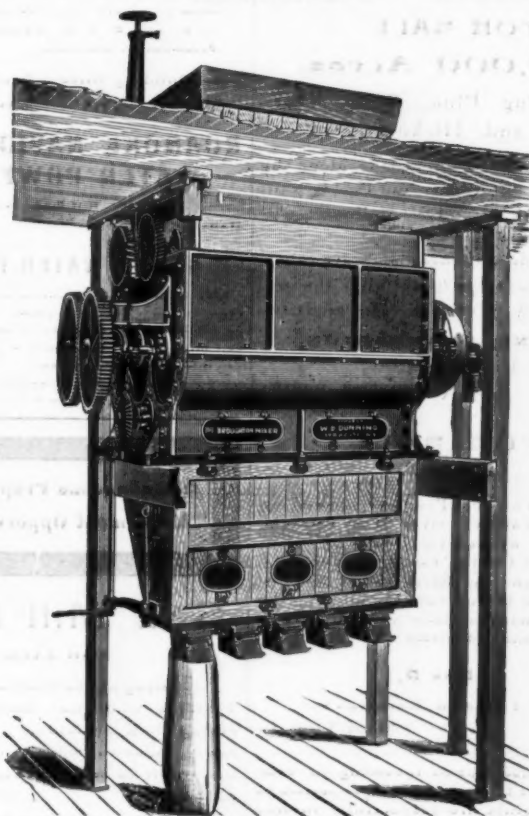
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**SEALED PROPOSALS** will be received until 12 o'clock noon, September 15th, 1903, by the City of Greenville, Mississippi, addressed to Wm. Yerger, City Clerk, for furnishing material and labor necessary to construct, approximately, 30,000 square yards of brick pavement. The principal items are 30,000 square yards of brick pavement and concrete foundation, 10,000 lineal feet stone curbing. Each bid must be accompanied by a certified check for \$500, payable to the City Clerk. Plans and specifications are on file at the office of the City Engineer. Contractors are invited to submit their own plans and specifications with sealed bid for same. The right to reject any and all bids is reserved.  
WM. YERGER,  
Clerk City of Greenville.

## Proposals for Macadam Streets and Roads.

Sealed proposals will be received by the Board of Pike Commissioners of Hamblen County, Tennessee, at the office of the Board, Merchants' National Bank Building, Morristown, Tenn., until 9 o'clock A. M., Wednesday, September 16, 1903, for grading and macadamizing certain streets and roads in the town of Morristown and in Hamblen County. The amount of the appropriation for the work is \$50,000.

Certified checks will be required with all bids, and the successful bidder will be required to make bond for 50 per cent. of contract, as required in Chapter 152, Acts of General Assembly of the State of Tennessee, 1899.

The right is reserved to reject any or all bids.

For specifications, forms of proposal and instructions to bidders address the Chairman of the Board at Morristown, Tenn.

W. S. OULLEN, Chairman;  
J. W. DAVIS,  
WILEY READ,  
Board of Pike Commissioners.

J. L. LUDLOW,  
Consulting Engineer,  
Winston-Salem, N. C.

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4.....	5.50.....	10.50.....	15.50.....	20.00.....
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650 acres of Coal Property located on the Great Kanawha river, West Virginia. This land carries two seams of Splint and one of Coking Coal. Shipping facilities, Kanawha River and C. & O. R. W. There is one running mine on the property with a daily out-put of one hundred tons. Address,

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46 Feet Head and Fall at

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A modern and thoroughly equipped  
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Manufactures best cotton press in the world. Does general repair work. Large lot of valuable patterns on hand. Running full capacity. Plant and property for sale at a bargain. Address Box 455, MERIDIAN, MISS.

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In Philadelphia or vicinity, a building for machine shop. Ground floor not less than 6000 sq. ft. in area. Ceiling not lower than 14 ft. With or without power. Must be on or near railroad. Address "R. D.," Care Manufacturers' Record.

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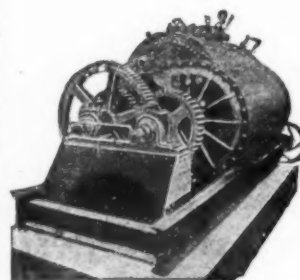
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- 1 113 H. P. Sterling Watertube, 125 lbs. pressure.
- 2 66"x15" Tubulars, 100 lbs. pressure.
- 2 42"x14" Tubulars, 100 lbs. pressure.
- 7 RETURN TUBULARS, 72"x17", INSURED 120 lbs. HARTFORD.

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- 1 10x30 Allis Corliss.
- 1 18x24 Atlas automatic.
- 1 18x18 Ridgeway McEwen.
- 1 13x21 Buckeye automatic.
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- 1 15x16 Weston automatic.
- 1 13x14 Ideal automatic.
- 1 13x12 Ideal automatic.
- 1 13x12 Armstrong & Sims.
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Second-hand Dynamos, Motors and Electrical Appliances. All money savers. Repair anything. Have you a Dynamo or Motor for sale?

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- 4 16x32x48 tandem compound Cooper Corliss.
- 1 16x27x16 Westinghouse.
- 1 16x28x18 tandem Erie Ball.
- 1 16x26x17 tandem McIntosh & Seymour.
- 1 15x25x16 Erie Ball cross compound.
- 1 15x23x17 tandem McIntosh & Seymour.
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- 1 13x23x13 Westinghouse.
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- 1 24x48 Hamilton Corliss.
- 1 24x48 tandem Hamilton Corliss.
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- 1 18x48 Allis Corliss.
- 1 18 1/2x18 McIntosh & Seymour.
- 2 16x16 Ball & Wood.
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- 1 11x12 McIntosh & Seymour.
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- 1 250 H. P. Babcock & Wilcox, water tube.
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- 1 These boilers are practically new.

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- 1 14x42 Harris Corliss.
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- 1 12x30 Lane & Bodley Corliss.
- 1 18x42 Bates Corliss.
- 1 18x28 Watertown Automatic.
- 1 12x24 Wright Automat c.
- 1 10x12 Ball Automatic.
- 1 10x16 Atlas Automatic.
- 1 8x10 Erie City Automatic.
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- 1 10x20 Throttling Governor.
- 1 11x18 Throttling Governor, with Riding Cut off.

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For price and photographs write

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One Second-hand "BERRYMAN" HEATER AND PURIFIER, in perfect condition and guaranteed good as new. Will sell cheap for cash. Address

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- Three (3) 80 H. P. 60"x16" Return Tub.
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- One (1) 6-2"x10" Double Cyl. Link Motion (Neafie & Levy), no boiler.
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- One (1) 50 H. P. with Iron Tubes.
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- One (1) 10"x16" Hoagland Rock Crusher.
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## Engines. Boilers.

- 9x9 Vertical Center Crank.
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- Drill Presses and Planers.

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## Bargains in Second-Hand Direct Connected Units.

One 50 K. W. "Eddy" generator directly connected to 13"x12" "Ames" horizontal automatic engine. 400 amperes, 125 volts, 250 revolutions.  
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- One 6x36-inch Cook's deep well pumping engine, almost new.
- One 4 H. P. Fairbanks, Morse & Co. gas engine.
- One 40x50-inch split Hill friction clutch pulley.
- Also a lot of large pulleys for which we have no use. Apply to

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75 K. W. direct connected set.  
115 volts, excellent condition,  
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### AIR COMPRESSORS.

- Two Rand Straight Line, "Class C," 18"x18"x24", One Ingersoll-Sergeant, "Class G," Duplex, 20"x20"x24",
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- Two Rand Duplex (3 stage) 16"x14"x8 1/2"x4 1/2"x22",
- One Rand Duplex Corliss, 20"x20"x36".

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- Four Babcock & Wilcox Water Tube, 208 h. p. each, shaking grates.
- Eight Horizontal Return Tubular, 66"x16",
- Three Horizontal Return Tubular, 72"x12",
- Four Horizontal Return Tubular, 72"x16",
- Three Horizontal Return Tubular, 60"x16",
- Nine Horizontal Return Tubular, 72"x18",

### ENGINE.

- One 20"x40" Buckeye, girder frame, band wheel in half, 12"x31" face.

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- 36" gauge Locomotives.
- Four H. K. Porter 9"x14", saddle tank.
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- 200 tons 30-lb. steel railers.
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All of the above in A-1 order and ready for immediate delivery.

We buy and sell Air Compressors, Engines, Locomotives, Rails, Cars, Bridges, Boilers, Hoisting Engines and Pumps, etc. Complete plants purchased.

### Steam Street Motor Car.

- Baldwin standard gauge, compound cylinders, only four years old, weight 60,000 pounds. Cost new, \$5,500. For quick acceptance will be sold at a great bargain, subject prior sale and inspection.

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- 1000 feet of 34" Boiler Stack, 5-16" material. This stack is first-class in every respect and will be sold at a bargain.

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- 8 Boilers, 40' long x 34" diam., good for 100 lbs. steam pressure, without fixtures or fittings. For quick sale will be sold cheap.

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- One 18x42 Harris-Corliss Engine.
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- One 12x15 Richmond Locomotive Works' S. C.
- One 11x14 A. & C. C. Engine.
- One 7x5 Vertical Engine.
- One 6 H. P. Vertical Engine.
- One 4 H. P. Vertical Engine.
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### BOILERS.

- One 80 H. P. High-Pressure R. T. Boiler, good for 120 lbs. steam working pressure.
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- One 70 H. P. R. T. Boiler.
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- One 50 H. P. R. T. Boiler, Full-Front.
- One 50 H. P. Economic Boiler.
- One 40 H. P. Economic Boiler.
- One 40 H. P. R. T. Boiler, Half-Front.
- One 25 H. P. R. T. Boiler, Half-Front.
- One 20 H. P. R. T. Boiler, Half-Front.
- One 15 H. P. Locomotive Type Boiler on wheels.
- One 30 H. P. Vertical, and several smaller sizes.

Also several sizes of pumps and other machinery. The above are in A-1 condition. Write for particulars.

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Fifty Whitin Welman Top Flat Cards, with 40 tops 40 ins. wide. Cylinder 42 x40 ins. Doffer 40x18 ins. Floor space 8 ft. 2 ins. x5 ft. 2 ins., with coilers. Production 125 lbs. per day. Some of these cards are only 3 years old, balance 8 years. They can be seen running. Also 150 sets Steel Clothing in extra good condition; 100 Doffers; 150 Mason Looms, 44"; 10 Ashworth Revolving Top Cards. For full information and price apply to

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## Feed Water Heater.

One Goubert horizontal, closed, 800 H.P. heater, flanged for 14 inch pipe connections, newly received from factory, never used. A great bargain at special price offered. Address

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## Two Pairs 16x20 Link Motion Engines.

Can be used for Hoisting Purposes.

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- No. 73 14"x8' Lodge & Shipley.  
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CINCINNATI, OHIO,

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## FANS.

Central station man's opportunity to increase the day load. We offer for immediate delivery, all f. o. b. Cincinnati, the following 125 cycle fans:

- 150 G. E. swivel and turn, 12 in., 104 volt., \$5.00 each.  
150 Emerson solid, 12 in., 52 volt., \$3 each.  
200 Westinghouse solid, 13 in., 52 volt., \$3.50 each.  
100 G. E. swivel and turn, 12 in., 52 volt., \$4.00 each.

JOHN A. STEWART ELECTRIC CO.  
420 Sycamore St., Cincinnati, Ohio.

## FOR SALE.

One 5-ton electric crane, 400 ft. travel, double track, 50 ft. span, 10 K. W. motor; 1 Webster heater and purifier for 500 to 2000 H. P. boilers, NEW; 1 G. & G. air compressor, 105x12; 1 G. & G. vacuum pump, 14x10x12, also 8 others, larger and smaller; 1 Deane single-piston pump, 14x10x12; 1 20-ton Dugoues improved hydraulic jack, 1 No. 3 Daillet portable drill complete, 1 35" cylinder hand rock drill, 1 50 H. P. slide-valve horizontal engine, 1 15 H. P. center-crank self-contained horizontal engine, 3 125 H. P. and 2 100 H. P. horizontal return tubular boilers complete, excellent condition; 1 80 H. P. horizontal return tubular boiler, 3000 ft. 1 1/2" diameter NEW hoisting rope, made by Hazard Rope Co.; 2000 ft. 1 1/2" same make, slightly used; 50, 000 ft. elevator rope, best make, sold subject to inspection; also lot of mills, pipe, boilers, pumps, engines, and anything you may desire. Send us your inquiries.

## WANT TO BUY.

Lot of wire cable and hoisting rope, 5/8 to 3" diameter, new or second-hand; 15, 30 and 50 H. P. gasoline engines, lot of dynamos and engines, lot of wooden and iron tanks, new or second-hand, 1200 to 5000 gallons capacity; 12 100 to 150 H. P. horizontal return tubular or locomotive boilers, also vertical boilers, pumps, engines, etc. WE BUY ANYTHING YOU HAVE TO SELL. Give full description.

Anthracite Machinery & Supply Co.  
ALLENTOWN, PA.

### MONEY SAVERS IN Second-Hand Boilers and Engines.

There are several propositions here that should interest you. Some are mentioned below. Others quite as good are omitted from the list. Anything here that appeals to you? Write anyhow and ask about whatever you may require.  
Two 75 H. P. Internally Fired Boilers, 100 lbs.  
One 40 H. P. Marine Firebox Boiler, 120 lbs.  
Three 40 H. P. Return Tubular.  
One 50 H. P. Return Tubular.  
One 50x12 Return Tubular.  
One 1 H. P. Upright Boiler and Trimmings.  
One 75 H. P. Firebox Boiler, 110 lbs.  
One 1000 H. P. Corliss Engine.  
One 300 H. P. Meyers Engine.  
One 40 H. P. Murray Iron Works Engine.  
One 20 H. P. Dutton Hor. Engine and Trimmings.  
One 20 H. P. Raming Hor. Engine.  
One 18 H. P. Watertown Hor. Engine & Trimmings.  
One 10 H. P. Upright Engine.  
One 30 H. P. Lambert Gasoline Engine.  
One 20 H. P. Otto Gasoline Engine.  
One 65x36 3" Discharge Double Acting Steam Pump. And many others.

D. GRUPE & SONS, Davenport, Iowa.

## TWISTERS FOR SALE.

We are installing looms and have had to throw out twisters recently purchased. We offer these for sale at a very reasonable figure. They are Draper's latest model, 150 spindles each, warp wind, single head bobbins, 3/8 inch spool, 6 inch traverse, 2 1/2 inch flat top patented twister rings. Cost \$3.65 per spindle. Address

Eugenia Manufacturing Company,  
JONESBORO, N. C.

## FOR SALE.

A 4 cutter, Seaman carving machine in good order. One Benedict bed clamp.  
LUGER FURNITURE CO., Minneapolis, Minn.

## FOR SALE.

### Partial List Second-Hand Machines

- 13"x5' Pratt & Whitney, rise and fall rest, with taper.  
14"x5' Putnam, rise and fall rest.  
14"x5' Prentiss, rise and fall rest.  
14"x8' Bladell, rise and fall rest, with taper.  
15"x8' Poeter, rise and fall rest.  
15"x8' Prentiss, rise and fall rest, with taper.  
16"x8' Pratt & Whitney, rise and fall rest, with taper.  
16"x17' M. B. & O., plain rest.  
16"x10' Fay & Scott, compound rest.  
18"x8' Reed, plain.  
18"x8' Lodge & Davis, compound rest and taper.  
24"x10' No Name, incomplete.  
26"x8' Betta Lathe, compound rest.  
30"x8' Stark, plain.  
36"x14' Betta Lathe, compound rest.  
No. 2 B. & O. Turret.  
No. 14 Garvin Special Forming Turret Lathe.  
14"x8' Lodge & Barker Turret Lathe.  
16"x8' Johnson Turret Lathe.  
18"x8' Lodge & Davis Chucking Lathe.  
Six-Spindle Mills, Bement & Co. Arch Bar Drill.  
26" Bickford Upright Drill.  
20" Barnes Upright Drill.  
Three-Spindle Upright Slide Sensitive Drill.  
Three-Spindle Garvin Sensitive Drill.  
24"x24"x6" Sellers Planer, one head.  
42"x42"x10" Whitcomb Planer, two heads.  
42"x42"x18" Betta Planer, one head.  
16" Smith & Mills Shaper.  
No. 2 Keyseat Milling Machine.  
No. 2 Garvin Plain Milling Machine.  
No. 1 B. & S. Universal Milling Machine.  
No. 4 1/2 Garvin Plain Miller.  
No. 3 Garvin Plain Miller.  
2 No. 2 Garvin Plain Millers.  
1 No. 4 1/2 Bralnard Plain Miller.  
No. 4 Schlenkers Double-Head Bolt Cutter.  
2" Pratt & Whitney Cutting-Off Machine.  
12" Lowell Machine Co.'s Slotter.  
Double-Head Pratt & Whitney Horizontal Boring Mill.  
Cold Saw, 19" Blade, Pump and Pan.  
30" Springfield Knife Grinder.  
Wells Bros. Cutter and Reamer Grinder.  
Springfield Tool Grinder, 38" Wheel, with pump.  
2 Speed Lathes.  
4 35 H. P. Portable Boilers.  
1 Blacksmith Bellows.  
Also a complete line of new machines. Correspondence solicited.

Brown & Zortman Machinery Co.,  
PITTSBURGH, PA.

## 2ND-HAND TOOLS.

### Lathes.

- 18 in. x 8 ft. Field.  
20 in. x 4 ft. New Haven.  
27 x 14 Geo. Place, heavy.  
30 x 18 ft. Fay & Scott.  
17 Stewart Speed Lathes.  
18 in. x 8 ft., comp. rest, Lowell.  
Axle Lathes, Bement (2).

### Planers.

- 24 in. x 4 ft. heavy, Leeds.  
30 x 8 Flat-r.  
24 x 8 Wheeler.  
24 in. x 24 in. x 7 ft. New Haven.

### Shapers.

- 18 in. Geared, Western.  
18 in. Ohio, crank.  
22 in. Prentiss-Juergel Friction.

### Drills.

- Ceiling, 2 ft. arm, Radial.  
Ceiling, Boilermakers.  
30 in. Prentiss Bros.

### Screw Mchcs.

- No. 60 Garvin, 1/2 in., with wire feed.  
Garvin Hub Mch., 4 1/2 in. hole.

### Miscellaneous.

- 54 Arbor Gage Fox Lathe, 50 lb. Bliss Drop Hammer, 10 lb. Merrill Drop Oil Separator, American No. 1 B. & S. Unit. Miller, No. 2 P. & W. Screw Slotter.  
18 in. Bement Slotter.  
10 H. P. N. Y. Safety Engine, etc., etc., etc.

Write your requirements.  
G. L. BENNETT, 113 Liberty St., New York.

## FOR SALE.

- Two (2) Blake Compound Condensing Duplex Pumps Complete, size 14x24x21.  
One (1) Vertical Deep Well Pump (Dean) 18x12 x24.  
One (1) Rand Drill Company Air Compressor, size 16x18x24, Meyer Valve Gear. Address

HAUBTMAN & LOEB CO., Ltd.  
NEW ORLEANS, LA.

## FOR SALE.

- 1 22x52 R. H. Watts Campbell Corliss Engine.  
1 10x12 Ideal Automatic Engine.  
1 10x7x10 Worthington Duplex Pump.  
1 15 ton Road Roller for sale or rent.  
1 Little Giant Steam Shovel.  
1 10x7x10 Worthington Duplex Pump.  
Iron Tanks, 300 to 1000 gallon capacity.

JAS. S. BRADEN, 26 Cortlandt St., New York.

## FOR SALE.

We have over 300 assorted size Machine Tools of every description. Send us your wants.

Girard Machine & Tool Co.

491 N. Third Street, PHILADELPHIA, PA.

**FOR SALE.**—Engines—14-horse Russell traction, \$500. Twelve horse traction \$300. Thirty horse portable boiler, \$200. Fire engine, Cole Bros. make, practically new, \$500. Stationary, portable, tubular, vertical, boilers and engines all sizes. Ten horse boiler and engine on wheels, \$125. Thirty-five horse new Scotch boiler, \$500. New 20 horse engine, \$150. Slide valve engines, forty, fifty and eighty horse power. One 28" Steadman disintegrator \$250. One 5" Air Compressor, \$25. Four sawmills, 30" drill press, back geared. One hundred different machines consisting of boilers, engines, lathes, drills, heaters, pumps, at one-third their actual value.  
D. L. CASEY MACHINE CO., Springfield, Ohio.

## For Sale—Machinery.

Hoisting engines, pile drivers, steam dredges, steam shovels, locomotives, dump cars, flat cars, relaying rail, engines, boilers, pumps, air compressors, rock drills, channelers, stone crushers, concrete mixers, road rollers, grading and ditching machines, wheel scrapers, traveling derricks, cableways, wire cable, etc. Send for list of bargains in machinery just issued.

WILLIS SHAW,

710 New York Life Building, Chicago.

## BARGAINS FOR QUICK DELIVERY.

- No. 2 Gates Crusher.  
No. 3 Gates Crusher.  
No. 5 Style B, Gates Crusher.  
Double column Drop Hammer, cylinder 14"x36", fine order.  
Good Second-Hand Engines.  
12-ton Kelly Roller, fine as new.  
New Well Drilling Machine, cheap.  
Marion AA Shovel, fine condition.

## WE SELL

Engines, Boilers,  
Pumps and Quarry  
Supplies,  
Concrete Mixers,  
Horse Rollers,  
Steam Drills,  
Air Compressors,  
Belting, Hose,  
and a full line of  
Contractors' Supplies.

CONTRACTORS' SUPPLY & EQUIPMENT CO., 232 Fifth Avenue, CHICAGO.

S. MILNOR PRICE, Pres. V. BACIGALUPO, Vice-Pres. WALTER L. GRAHAM, Secy.

## S. M. PRICE MACHINERY CO., Inc.

NORFOLK, VA.

## —SELLING AGENTS—

ERIE CITY IRON WORKS, Engines and Boilers.  
AMERICAN TOOL WORKS CO., Lathes, Planers, Shapers, Radial Drills, Boring Mills and Vertical Drills.  
LAIDLAW-DUNN-GORDON CO., Steam Pumps, Air Compressors and Condensers.  
MIDDLETOWN MACHINE CO., Gas and Gasoline Engines.  
DODGE MFG. CO., Wood and Iron Pulleys, Hangers, Shafting, etc.  
LAMBERT HOISTING ENGINE CO., Hoisting and Log Skidding Machinery.  
DETROIT OAK BELTING CO., Pure Oak Lace Belt.  
LUNKENHEIMER CO., High-Grade Steam Specialties.

## GAS ENGINE.

We have for sale an 80 H. P. Standard two cylinder Engine, specially designed for Electric Light use.

Engine is practically new and price very low.

THE F. BISSELL CO., 150 Huron St., Toledo, Ohio.

## Machinery Bargains.

### Second-Hand—Good Condition.

Vertical Boilers to 40 H. P., Hor. Tub. Boilers to 90 H. P., Locomotive Boilers 20, 50, 100 H. P., Westinghouse Engine 25 H. P., Chandler & Taylor auto, high speed 8x10, Hor. plain slide valve engine to 25 H. P., Steam pumps all sizes, lot large valves.  
Wood Mortisers, Boring machines, Gray & Wood planers, 20x6 and 26x12 double surfacers, Swing Saw, Jig Saw, Variety Moulder, 16" Fox Lathe, 16" Spinning Lathe, 5 speed lathes, 10" Sc. Cutting Lathe, 8" Boynton Shaper.

### NEW MACHINERY.

10" to 26" Screw Cutting Lathes, 20" to 28" Drill Presses, Power Hack Saws, Emery Grinders, Buffalo Forges, 2 1/2, 5, 7 1/2 H. P. Gas Engines, 3 to 15 H. P. Vertical Engines, 12 to 30 H. P. Auto. High Speed Engines.

Shafting, Hangers, Pulleys, Belting, etc. Pipes, Valves, Fittings, the largest stock in the South. Write what you want or have to sell.

## J. D. MALLORY,

BALTIMORE, MD.

## FOR SALE.

1 300 H. P. Cross compound Slater engine, \$5000.  
1 18x42 Harris Corliss, overhauled, \$1200.  
1 12x36 Corliss, overhauled, \$750.  
1 12x18 Skinner engine, \$300.  
1 34x72 George Corliss, with balance wheel, \$500 per H. P.  
1 30x72 George Corliss, with balance wheel, \$500 per H. P.  
1 24x48 Woodruff & Beach, automatic, \$500.  
1 20x60 George Corliss engine, \$1200.  
1 10x24 Ryder, automatic, \$150.  
1 6x8 Fitchburg, vertical, \$85.  
1 iron stack, 52x30, \$150.  
1 Corliss, segment wheel 16x60" face.  
1 hydraulic press, 8" ram, 48x36" platens.  
1 300 to 400 H. P. quill, practically new, including boxes.  
2 tanks, 7' diameter, 8' deep, 3/4 shell, \$85 each.  
1 400 H. P. Berryman heater, \$150.  
1 100 H. P. Berryman heater, \$75.  
1 75 H. P. National heater, \$50.  
1 75 H. P. National heater, \$50.  
Lot of pulleys, 6' to 10' diameter.  
1 400 H. P. Knowles jet condenser, \$350.  
1 250 H. P. Deane condenser, \$200.  
5 72"x18" H. R. T. boilers, first-class condition, without fittings, \$200 each.  
F. H. DAVIS & CO., 53 State St., Boston, Mass.

### Highest prices paid for Dynamos, Motors and Electrical Apparatus of any description.

Complete Stations purchased.  
Write us for full descriptions and get our cash offers.

J. W. KOHN & CO.

14 Merwin St., CLEVELAND, O.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4 a year.

## FOR SALE.

1 65 ton Vulcan steam shovel.  
1 50 ton Vulcan steam shovel.  
10 9x14, 36" gauge, saddle tank, contractors' locomotives.  
2 30 ton 4 wheel, standard gauge, saddle tank locomotives.  
4 American type, 35 ton, standard gauge locomotives.  
1 Baldwin consolidation, standard gauge, 50 tons.  
25 5 yd. two-way standard gauge, steam frame Western dump cars.  
5 36" gauge 3 yd. side dump cars.  
1 Climax crushing plant, complete with engine and boiler.  
1 12x24 Climax crushing plant, complete with engine and boiler.  
2 New Era graders, complete with traction engines.  
1 Western spreader, mounted on standard gauge car.  
If you want to buy or sell contractors' plant of any description, we can help you. Correspondence solicited.

### CONTRACTORS EQUIPMENT CO.

1124 Betz Bldg., Philadelphia, Pa.

## Baker, Stillwell & Hart

Manufacturers' Agents,

Room 421 Chalfoux Building,

BIRMINGHAM, ALABAMA.

Pig Iron, Rails, Fire Brick,  
Bar Iron, Nuts and Washers, Rabbitt Metal  
Coal, Bolts, Tool Steel,  
Coke, Nails, Engines,  
Steel Shapes, Foundry Supplies, Boilers,  
Cars, Car Wheels, Castings,  
Second-hand Machinery of all kinds.

## FOR SALE at

## CROWN POINT, N.Y.

1 Smoke Stack, 8' diameter, 130' high, self supporting.  
3 Hartman Stoves, complete, 66"x16".  
3 Hartman Stoves, complete, 46"x15".  
1 9"x15" Farrell Stone Crusher.  
16 Cylinder Boilers, 36"x41".  
Air Tanks and Receivers from blowing engine.

HENRY A. HITNER'S SONS,

Huntingdon St. and Aramingo Ave., Philadelphia.

## FOR SALE.

1 18x42" Left Hand Harris Corliss Engine. Thoroughly Repaired. GUARANTEED good as new.

CLYDE MACHINE WORKS,

29th St. and Union Ave. CHICAGO, ILL.



## FOR SALE. BRIDGES.

- 1 50 ft. steel plate girder bridge, double track.
- 1 500 ft., 4 spans 125 ft. each, riveted pier bridge, double track, 24 ft. wide. Viaduct joining pier 570 ft. double track.

## CARS.

- 73 80,000 lb. hopper bottom ore cars.
- 100 tons 80-lb. Relaying Steel Rails.

HENRY A. HITNER'S SONS,

Aramingo Ave. and Huntingdon St.

PHILADELPHIA, PA.

## Nearly as Good as New.

	Cost	Price
Drilling Machines, Barnes, No. 20. . . . .	\$50.00	\$15
Blower, No. 3, Pressure. . . . .	22.50	15
Grinding Machine, B, Standard. . . . .	30.80	23
Grindstone, power, 30-in. . . . .	25.50	18
Motor, Sprague, 2-H.P., 500 volts. . . . .	117.00	90
Motor, Sprague, 4-H.P., 500 volts. . . . .	162.00	125
Pumping Jack, Hill, geared. . . . .	20.00	15
Rope Drive and Countershaft. . . . .	38.00	25
Steel Balls, 1 inch, 96. . . . .	6.62	2

ALL F. O. E. WASHINGTON.

## FISHER & SAXTON COMPANY,

123 G Northeast, WASHINGTON, D. C.

18"x42" Howes & Phillip's right-hand Corliss engine, wheel in 18, 14"x38" face. Berryman Heater, Jack shaft, etc., low price, gilt edged condition.

COUSE & BOLTEN,

NEWARK, N. J.

## Wheels and Axles

FOR SALE, CHEAP.

20 pair 5 ft. Archibald Wheels (iron hub) with steel axles, all new. These are VERY SUITABLE for MAKING RICKS or DOLLIES for HANDLING FILES, POLES, TIMBER, etc. A bargain for any such purpose. For full description address FISHER & SAXTON CO.

123 G St., Northeast, Washington, D. C.

FOR SALE.

## Drain or Culvert Pipe.

125 lengths of 36" Cast Iron Pipe, practically as good as new, at Charleston, S. C.

FRANK SAMUEL,

Harrison Building, PHILADELPHIA, PA.

FOR SALE.

## Kenyon Tenting and Drying Machine.

Used only one year. In perfect order.

Address SUMMIT PROOFING COMPANY,

24 Wooster St., New York.

FOR SALE.

1 Locomotive, 36" gauge, 11x16, 15-ton capacity. 9 Box Cars, 54' long, 60,000 lbs. capacity. 30 Box Cars, 30' long, 40,000 lbs. capacity. 200 tons 50 lb. Steel Relays. 150 tons 60-lb. Steel Relays. 50 tons 53-lb. Steel Relays. Also New Rails, 8 to 40 lbs.

L. WOLF & BRO.,

50-51-52 Mitchell Bldg., CINCINNATI, OHIO.

## BOWEN & STREET EQUIPT. CO.

NORFOLK, VA.

has Removed its offices to 301-307 New Atlantic Bldg., because of increased business and consequent necessity for more office room.

## New and Second-Hand

## Iron Tools and Woodworking Machinery

Corliss and Double Valve Engines for Trolley Roads and Electric Lighting Stations.

H. C. BAKER & CO.

114 N. 3d Street, Philadelphia, Pa.

FOR SALE.

## Five Blowing Engines.

36" Steam Cylinder, 84" Air Cylinder, 54" Stroke.

Engines were built by Cuyahoga Engine Works and can be seen in operation at our plant at Columbus, Ohio. Can be delivered about Nov. 1st.

## The Columbus Iron & Steel Co.

COLUMBUS, OHIO.

FOR SALE CHEAP.

Several Dynamos, Motors, Engines, Boilers, Pumps, Steam Traps, Damper Regulators, Iron Pulleys, Shafting, Etc. Practically good as new. Get our figures before buying elsewhere. We can beat 'em all on prices.

American Electric Supply & Mfg. Co.  
27 Thames St., New York City.

FOR SALE.

One 18x24 Pittsburg Locomotive. Six Drivers. Weight 42 tons. Condition good. Price \$3500.00. Immediate shipment.

W. F. DAVIS,

Birmingham, Ala.

FOR SALE.

- 12 Western Wheeled Scrapers.
- 10 Drag Scrapers.
- 4 Western Railroad Plows.
- 2 Rooter Plows.
- 1 two and one-half ton Ames Disc Roller.

WILLIAM HANLEY, Contractor, Bradford, Pa.

## FOR SALE.

- 1-34 in. x 12 ft. horizontal tubular boiler.
- 1-1220 horizontal engine.
- 1-7 and 14x10 fore and aft marine engine.
- 6 steam pumps—all sizes.

E. J. CODD CO., Baltimore, Md.

## BARGAINS—CHEAP.

One Deane Duplex Comp. Pump, 14x26x11x18.  
One 30x13 Blake Pattern Crusher, nearly new.  
Three Hoisting Engines. Rails, Locomotives.

L. E. KENNEDY & CO.

17 Broadway, New York City.

## GREENE ENGINE

20 by 42 for sale. As good as new. Can be seen at

Manhattan Rolling Mill,

362 Ave. A, New York

WANTED—125 to 150 H.P. second hand Corliss engine. Address, giving make, age and best price, SPRAY WOOLEN MILLS CO.  
Spray, N. C.

## FOR SALE.

## Immediate Delivery.

One Westinghouse Standard Engine, 11x11 Est. H. P. 60.  
One Westinghouse Standard Engine, 11x10 Est. H. P. 60.  
Two Return Tubular Boilers, each 60"x18", Est. H. P. 80 each.  
Two Smith-Vaile Single Hydraulic Pumps, 12x1 1/2 x14.

The above machinery is in good order and was in operation up to April 30th, when it was taken out on account of enlargement and changes in our steam plant and other machinery equipment.

Address

NORTH CAROLINA COTTON OIL CO.

CHARLOTTE, N. C.

## 150 Horse Power Boiler, Upright Tubular.

In fine condition. Too small for our use. Must dispose of it quickly. Need the room.

APPLY AT

THE WM. POWELL CO.

2525 Spring Grove Avenue,

Cincinnati, Ohio.

## Relaying Rails For Sale.

IMMEDIATE DELIVERY.

250 tons 52-lb. Steel Tee Rails with Angle Plates.  
1000 tons 58-lb. Steel Tee Rails with Angle Plates, Tidewater delivery.

GEORGE H. CAREY, 1 Broadway, New York.

# Our Weekly Bargains

The diversity of the material that we have for sale is best appreciated by studying the different advertisements inserted by us each week. "From a collar button to a locomotive" is about the way our line goes.

This issue is especially devoted to MACHINERY. Next week we will call your attention to some astonishing bargains we have in General Merchandise.

## FOR IMMEDIATE DELIVERY.

ENGINES.

- 12x30 Fraser & Chalmers Corliss.
- 30x40 Fraser & Chalmers Corliss.
- 22x48 Wheelock Corliss.
- 16x12 Allis Corliss.
- 15x30 Buckeye.
- 15x15 Armstrong & Sims.
- 14x15 Armstrong & Sims.
- 16x24 Atlas.
- 13x12 New York Safety.
- 14x13 Armstrong & Sims.
- 10x12 Armstrong & Sims.
- 9x12 Armstrong & Sims.
- 16x16 Hendy.
- 16x16 Rice.
- 7x10 Hendy.
- 14x21x14 Westinghouse.
- 18x20x16 Westinghouse.
- 13x21x13 Westinghouse.
- 11x19x11 Westinghouse.
- 16x24 Bass slide valve.
- 8x8 Ames "Lively."
- 10x12 double cylinder, link motion, Marine.
- 6x7 1/2 vertical, center crank, New York Safety.
- 7x7 Payne, and 200-light, 110-volt C. & C. dynamo.
- 8 and 12x14 McEwan tandem compound and 35 K. W., 110-volt C. & C. generator, direct connected.
- 14x24 Cummer.
- 18x24 slide valve.
- 16x28 slide valve.
- 15x20 slide valve.
- 14x18 slide valve.
- 12x20 slide valve.
- 12x24 slide valve.
- 11x14 center crank.
- 10x16 side crank.
- 10x12 center crank.
- 9x18 side crank.
- 9x12 center crank.

AIR COMPRESSORS.

- 12x12 Snyder-Hughes duplex, belt driven.
- 8x6x8 Clayton, steam driven, duplex.
- 8x8 single, belt driven, Clayton.
- 7x7 single, belt driven, Clayton.
- 12x12x14 steam driven.
- 24x12x24 Ring.
- 20x20x24 Eastern.

PUMPS.

- 3 16x10 1/2 x10 Worthington duplex.
- 3 18x12x18 Davidson single.
- 12x8x12 Worthington.
- 16x9x12 Snow Underwriters'.
- Silby fire.
- 2 10x6x10 Worthington.
- 10x5x10 Worthington.
- 5 8x8x6.
- 3 7x4 1/2 x10.
- 8 15x25 1/2 x4.
- 6 5 1/2 x3 1/2 x5.
- 10 3x2x3.
- 200 single direct-acting pumps, all sizes.
- 3 10x30 Dean deep-well steam heads.

FEED-WATER HEATERS.

- 2 40 H. P. Berryman.
- 3 70 H. P. Baragwanath.
- 4 100 H. P.
- 2 150 H. P.
- 3 200 H. P.
- 1 400 H. P. Walwright.
- 1 500 H. P. Erie City.
- 1 750 H. P. Berryman.
- 1 1000 H. P. Berryman.
- 2 75 H. P. Stillwell-Bierce (open).
- 2 150 H. P. open.

CONDENSERS.

- 1 No. 2 Buffalo jet, 150 H. P.
- 1 500 H. P. Berryman.
- 1 200 H. P. Wheeler.
- 1 600 H. P. Stillwell-Bierce surface.

ELEVATORS.

- 3 worm gear belt driven freight.
- 3 7x10 Crane steam driven.
- 1 electrical passenger, motor 220 volt.
- Hotel hydraulic, complete with guides, cable and all the equipment for a five-story building.
- Hydraulic freight elevator, complete with same equipment for five-story building.

ELECTRICAL.

- 50 K. W. Westinghouse alternator.
- 50 K. W. Fort Wayne alternator.
- 30 K. W. Edison bi-polar direct.
- 20 K. W. Edison bi-polar direct.

GAS AND GASOLINE ENGINES.

- 100 H. P. Otto double cylinder.
- 50 H. P. Lambert.
- 40 H. P. Lewis.
- 16 H. P. Dayton.
- 12 H. P. Rochester Marine.
- 3 4 H. P. Perfection.
- 4 4 H. P. Perfection.
- 125 2 H. P. pumping engines.
- 50 2 cycle, 2 H. P.

MINING AND QUARRY MACHINERY.

- Ingersoll-Sargeant undercutter.
- 15 H. P. fire-box boiler on wheels.
- 20 H. P. fire-box boiler on wheels.
- 6 30" gauge Western dumping cars.
- 4 30" gauge Western dumping cars.
- 15 24" gauge Western dumping cars.
- 2 12" vertical centrifugal pumps.
- 12" horizontal sand pump.
- 6" sand sucker.
- 1 1 1/2" Bullock Monarch drill, fitted for air or steam.
- 4 2" Bullock Monarch drills, fitted for air or steam.
- 2 2 1/2" Bullock Monarch drills, fitted for air or steam.
- 4 3 1/2" Bullock Monarch drills, fitted for air or steam.
- 1 U. A. Sullivan drill for air.
- 2 U. C. Sullivan drills for steam.
- 3 U. E. Sullivan drills for steam.
- 1 U. E. No. 2 Sullivan drill for steam.
- 7 2 1/2" Rand "Little Giant" drills.
- 3 3" Rand "Little Giant" drills.
- 2 2 1/2" Rand "Little Giant" drills.
- 1 2 1/2" Ingersoll drill for steam.
- 3 3 1/2" Ingersoll drills for steam.
- 3 3 1/2" Ingersoll drills for steam.
- 3 3 1/2" Ingersoll drills for steam.
- 4 air receivers 36x6 feet.

BOILERS.

250 boilers, water-tube, tubular, fire-box and vertical, ranging from 4 to 250 H. P. In this list we have six 200 H. P. water-tube boilers, also two fire-box boilers, each 125 H. P., and one 150 H. P.

BLOWERS.

- 2 No. 4 Baker lend lined.
- 2 No. 5 Baker lend lined.
- No. 12 Sturtevant pressure.
- No. 10 Sturtevant pressure.
- 2 No. 7 Sturtevant pressure.
- 2 No. 8 Sturtevant pressure.
- No. 8 Buffalo.
- 2 No. 5 Buffalo.
- 2 No. 3 Buffalo.
- ALSO, exhausters of all sizes.

MACHINE TOOLS.

- 16 in. Hendy friction shaper.
- 16 in. patent Whitney geared shaper.
- 16x5 screw-cutting engine lathe.
- 16x6 screw-cutting engine lathe.
- 24x38 screw-cutting engine lathe.
- Stockwell & Griffin bolt cutter up to 1 1/4".
- Barr slotter 26".
- 24x12 engine lathe.
- 22x8 engine lathe.
- 22x10 engine lathe.
- 18x8 engine lathe.
- 18x6 engine lathe.
- 16x7 engine lathe.
- 1 24" Barnes drill press.
- 3 20" Barnes drill presses.
- 2 18" Barnes drill presses.
- 2 15" Barnes drill presses.
- 1 horizontal gang drill.
- 1 geared power press.
- 18x6 back-geared 6-head turret lathe, 2 1/2 in. hollow spindle.
- 1 iron table double-spindle shaper.

REFRIGERATING AND ICE-MAKING MACHINERY.

- 15-ton ice, 30-ton refrigeration.
- 12-ton ice, 24-ton refrigeration.
- 5-ton ice, 10-ton refrigeration. "Barber."
- 5-ton belt-driven Barber ice machine.
- 3-ton belt-driven ice machine.

MISCELLANEOUS.

- 36x8 vertical boiler and 7x10 engine on one base.
- Hand power hoisting sidewalk elevator.
- 1 10x12 double cylinder, link motion, Marine engine.
- 1 75-gallon copper steam-jacketed kettle.
- 24x6 vertical boiler and 6x6 vertical engine on one base.
- 27x5 vertical boiler and 5x6 engine on one base.
- 6 Hess hot-blast fans.
- 1 iron table double-spindle shaper.
- 1 No. 2 "Defiance" double-chisel mortiser.
- 1 24" and 1 30" foot-power squaring shears.
- 1 triple-geared sorghum mill.
- 1 "Houston" single mortiser, with boring attachment.
- 1 6 H. P. water motor.

TANKS.

75 steel and iron pressure and storage tanks, capacity from 500 to 15,000 gallons. See our complete list in issue of two weeks ago, or will send complete list on application.

Catalogue No. 239 on Application.

# Chicago House Wrecking Co.

West 35th and Iron Sts., Chicago.

# YOUR BARGAINS

We give below a list of Wood Working Machinery, all of which is in first-class condition, together with a number of Boilers, Engines, Pumps, etc., which we have for sale.

All of the machinery below, we will sell at very low prices; it has had very little service and can be inspected at our warehouse in this city.

If you have any machinery for sale, please send us list and full description of same.

## WOODWORKING MACHINERY.

No. 6. One No. 5 Milborn pulley mortiser.  
No. 7. One pulley mortiser.  
No. 8. One adjustable window pocket cutter.  
No. 20. One Rogers No. 2 saw filer and gummer.  
No. 25. One Greenley No. 0 combination friction cut-off saw table.  
No. 33. One power feed panel raiser bevel and o. g. sectional cutter.  
No. 34. One Williamsport wedge cutter and relishing machine.  
No. 37. One Williamsport large wall bracket sand papering machine.  
No. 46. One Williamsport new blind clamp machine.  
No. 47. One Williamsport arm pin boring machine.  
No. 49. One Williamsport 4" four side moulder.  
No. 51. One Duchess automatic blind slot planer.  
No. 52. One Duchess automatic blind slot tenoner.  
No. 54. One Williamsport 6" four side moulder.

No. 58. One Williamsport 4" four side moulder.  
No. 62. One Williamsport 4" four side moulder.  
No. 65. One Williamsport arm pin boring machine.  
No. 70. One Greenley friction rip saw machine.  
No. 75. One Prybil combination saw and dado machine.  
No. 81. One Williamsport power feed rod pin Dowell machine.  
No. 88. One fluting machine.  
No. 89. One Williamsport No. 2 combination saw and dado machine.  
No. 100. One Houston No. 3 vertical mortiser.  
No. 104. One Williamsport two wheel bench grinder.  
No. 113. Four No. 6 Towseley lumber trucks.  
Nos. 116-117-118. Three Williamsport adjustable mule pulley stands.  
No. 449A. One Rowley & Hermance 7" four side moulder.  
Also a lot of small saws, both cut-off and rip, and a few extra Shimer, coping and moulding heads.

## PUMPS.

No. 891. One Knowles single piston pump, 14"x7"x12".  
No. 940A. One Blake single piston pump, 14"x7"x12".  
No. 184. One Holly single piston pump, 14"x8 1/2"x20".  
No. 710B. One Blake single piston, 20"x7"x18".  
No. 710A. One Blake single piston, 20"x9"x18".  
No. 192. One Holly duplex compound piston pump, 8"x10"x8 1/2"x12".  
No. 194A. One Deane duplex outside packed plunger pump, 16"x10"x18".  
No. 194B. One Deane duplex outside packed plunger pump, 16"x10"x18".  
No. 146A. One Worthington compound duplex outside packed plunger, 12"x18 1/2"x10 1/2"x10".  
No. 154. One Deane duplex compound inside packed plunger, 12"x22"x10"x18".

## BOILERS.

No. 645. Seven 150 H. P. horizontal return tubular boilers.  
No. 645A. Six 100 H. P. horizontal return tubular boilers.

No. 663. Two 70 H. P. horizontal return tubular boilers.  
No. 35. Two 65 H. P. locomotive boilers.  
No. 304A. One 20 H. P. vertical boiler.  
Also a lot of 30", 34" and 36" cylinder boilers 3/4" steel. Will sell for stacks.

## ENGINES.

No. 304. One 7x8 vertical.  
No. 781. One 8x10 vertical.  
No. 235. One 12x24 horizontal.  
No. 157. One 12x28 horizontal.  
No. 35A. One 14x24 horizontal.  
No. 941B. One pair 16x30 horizontal.  
No. 905. One 10x14 Buckeye automatic.  
No. 908A-B. Two 10x12 Ball Engine Co. automatic.  
No. 854. One 13x18 Ide automatic.  
No. 854A. One 15x20 Ide automatic.

## MOTORS.

No. 443. One 25 H. P. American New.  
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Also a lot of new and relaying rails, pipe, shafting, couplings, hangers, wood split and solid iron pulleys, friction clutch pulleys, etc.

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# New Light Steel Rails,

ALL WEIGHTS,

WITH

## Track Fastenings.

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Also NEW 16, 20, 25, 30 lb. Rails for prompt shipment.

We BUY good Relaying Rails for cash. Write us if you have any to offer.

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Special Price to Dealers.

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For Prompt Shipment.

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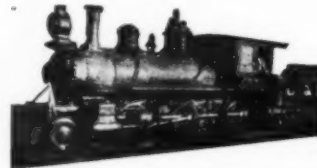
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One 12x16 Forney type.  
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Also new and relaying rails of all weights.  
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1 Blake Air Compressor, 10-20x24 low pres ure.  
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## 64 TON BALDWIN STANDARD GAUGE WITH TENDER.

Cylinders 15x24".  
2 drivers on each side 60" diam.  
Tires 1 1/2" thick.  
Wheel base, 7' 6".  
1 set 4 wheel trucks under front end.  
No brake.

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Cylinders 14x22".  
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3 drivers on each side 41" diameter.  
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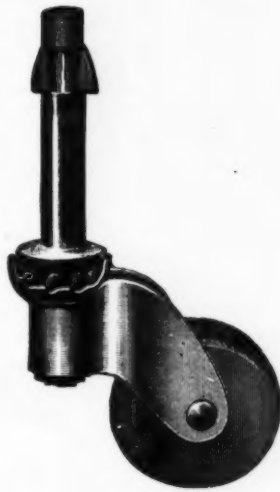
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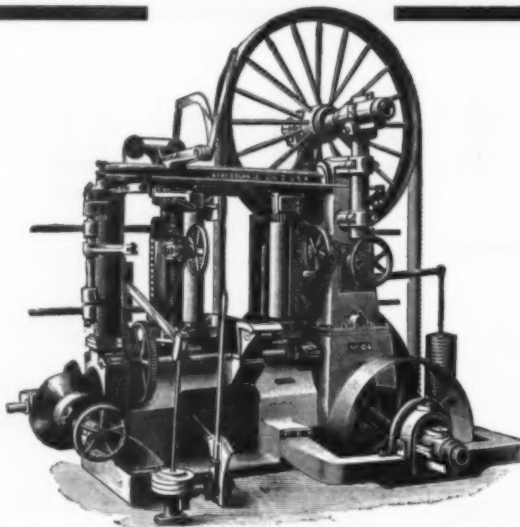
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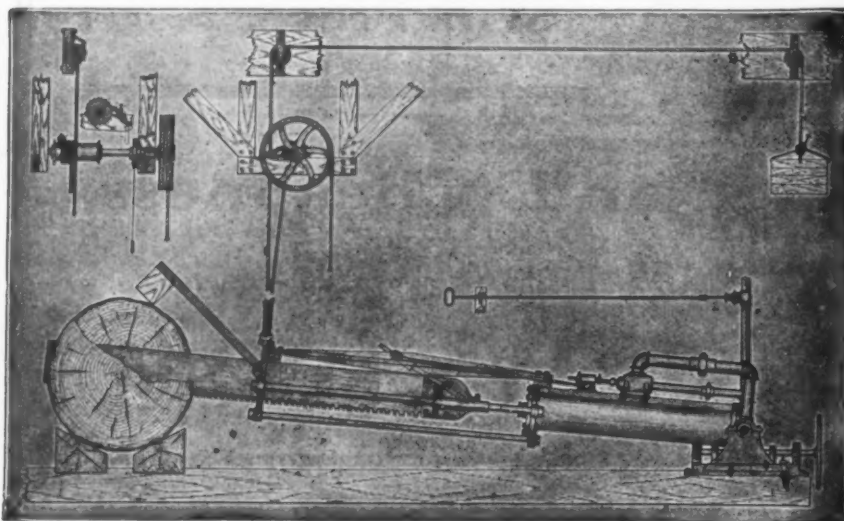


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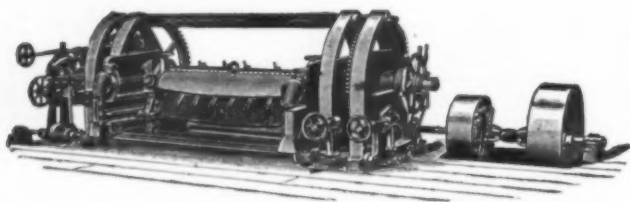
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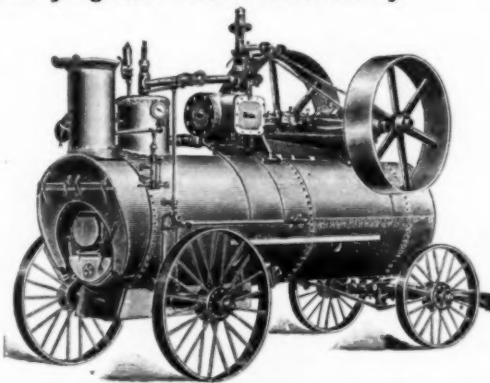
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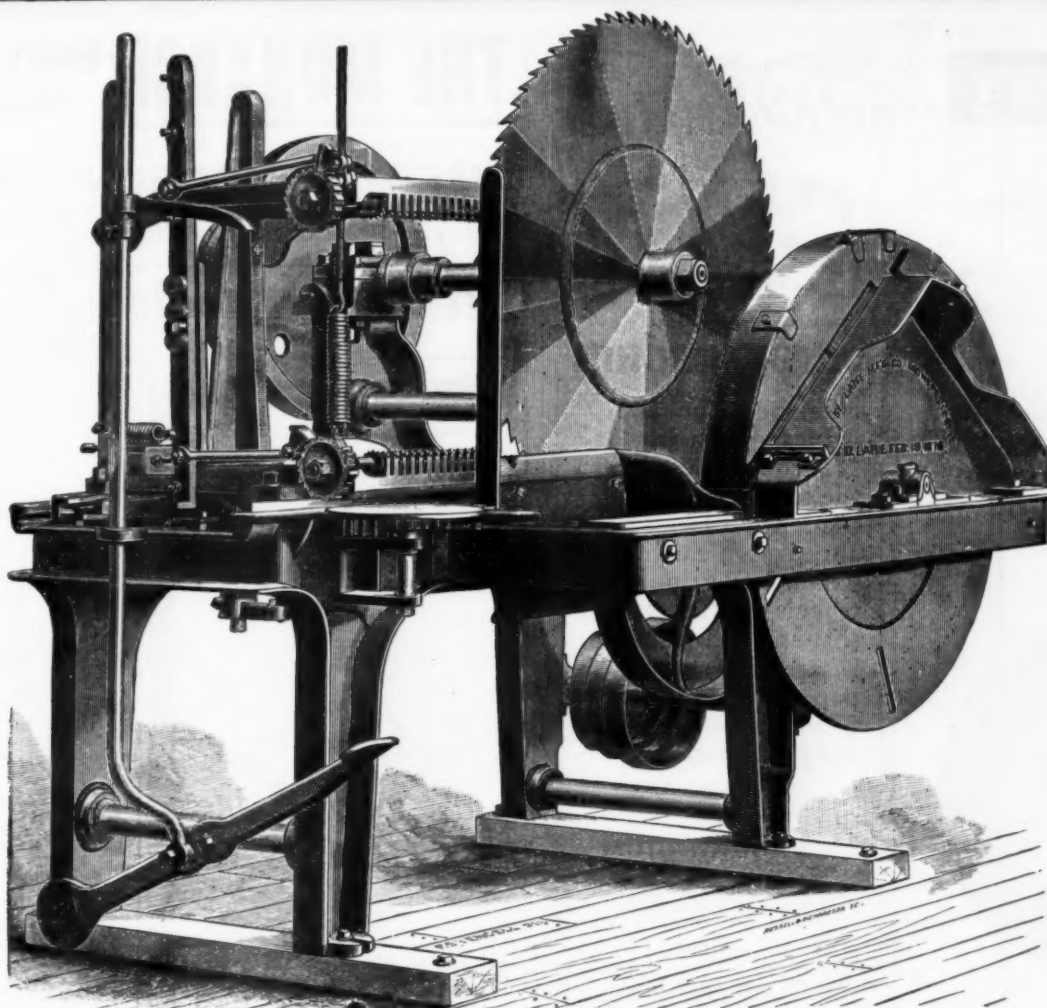
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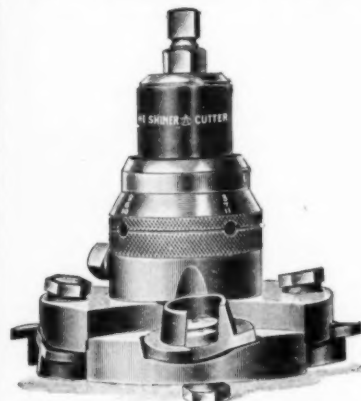
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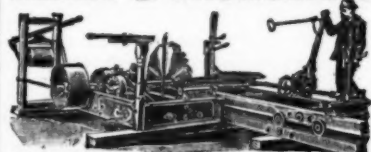
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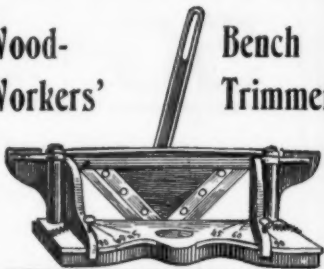
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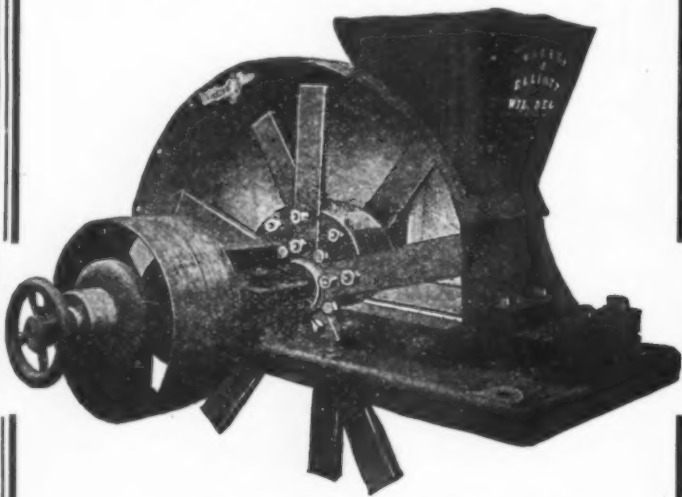
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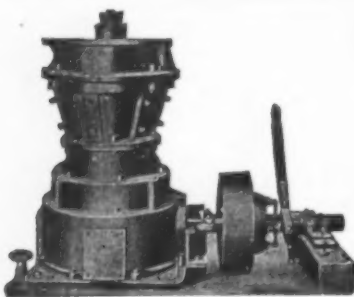
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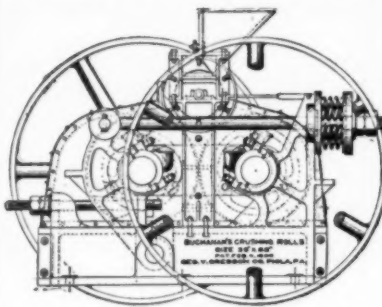
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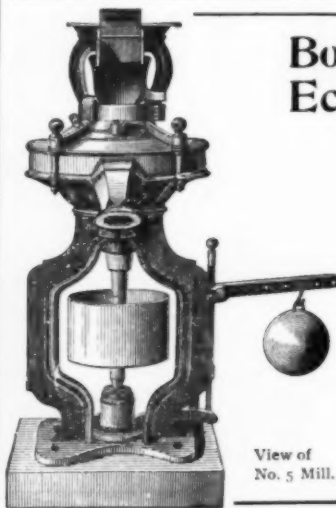
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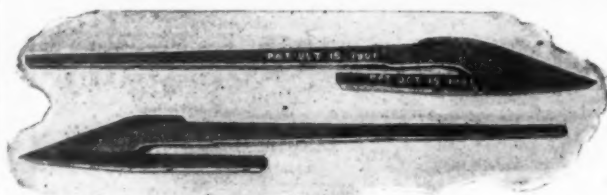
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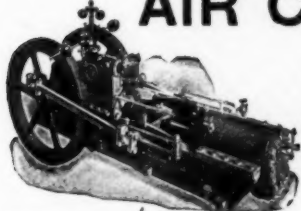
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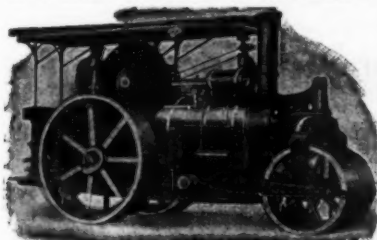
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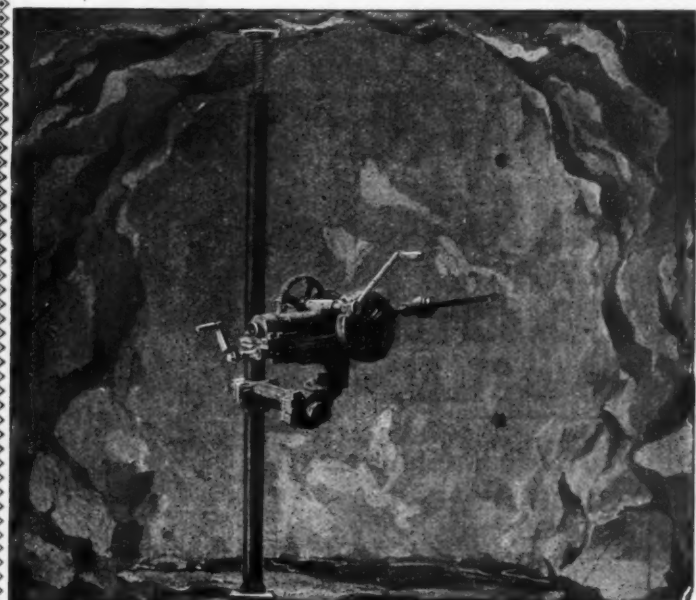
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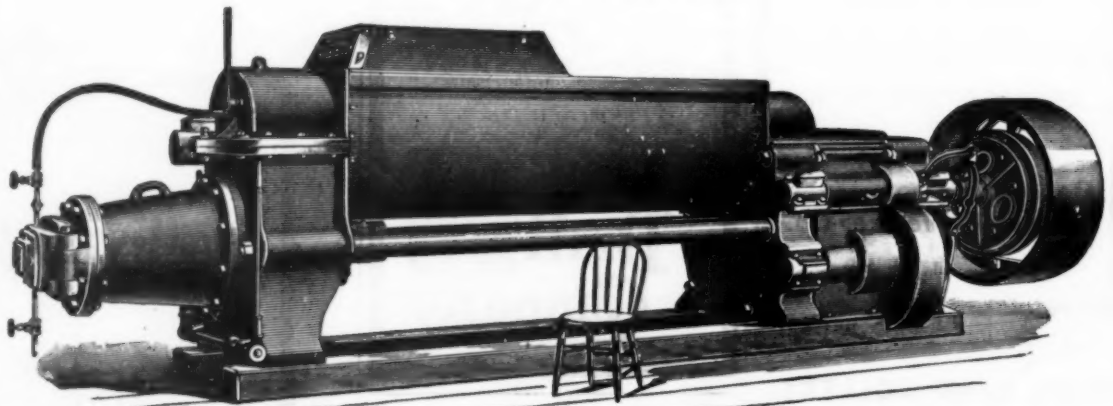
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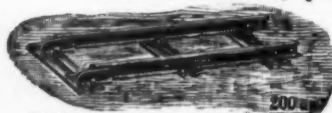
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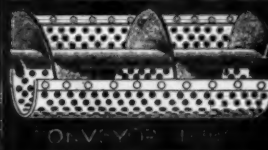
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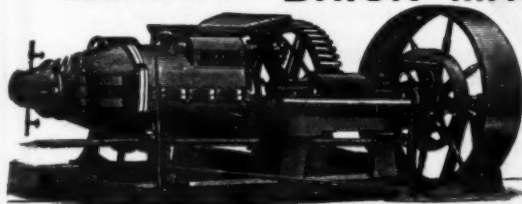
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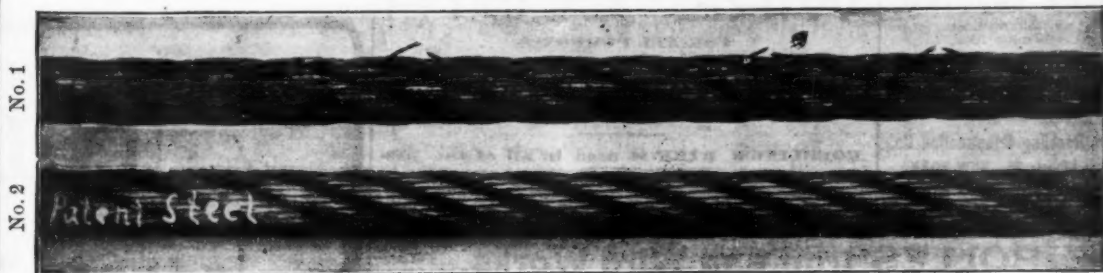
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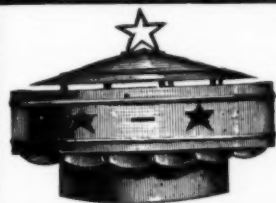
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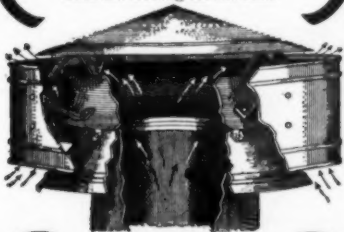


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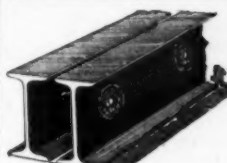
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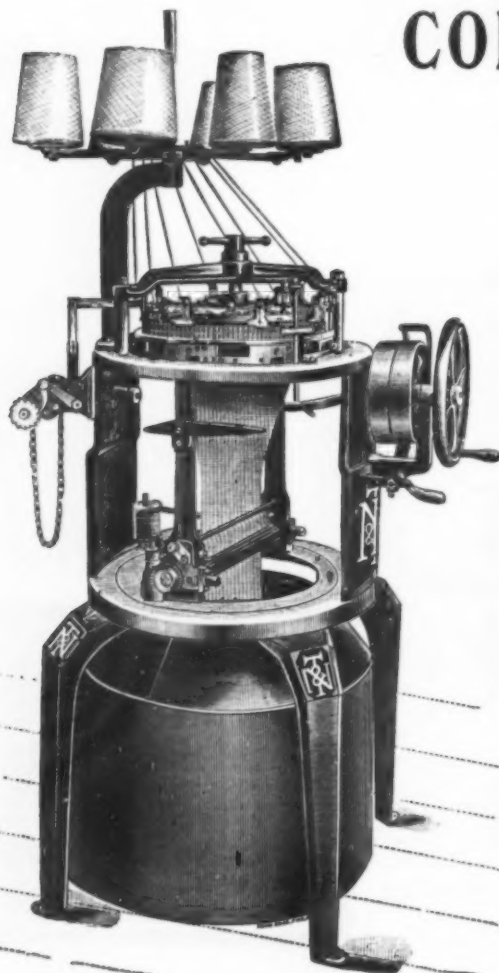
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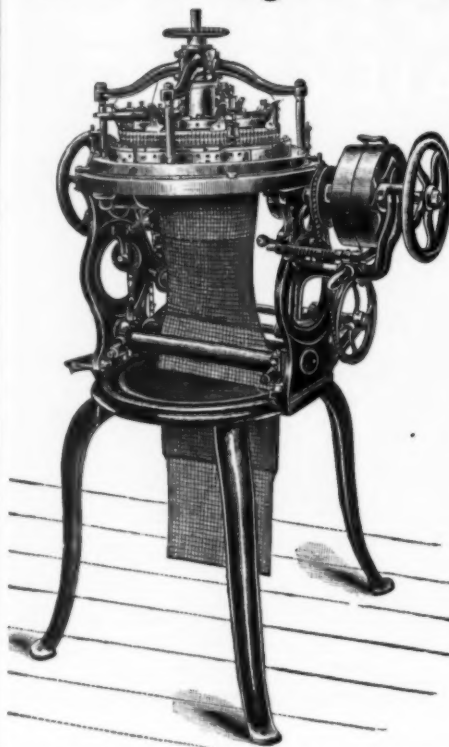
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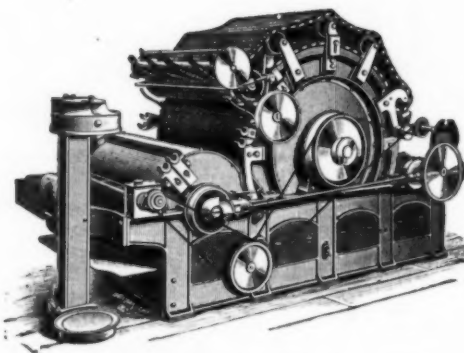
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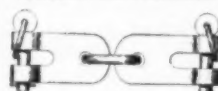
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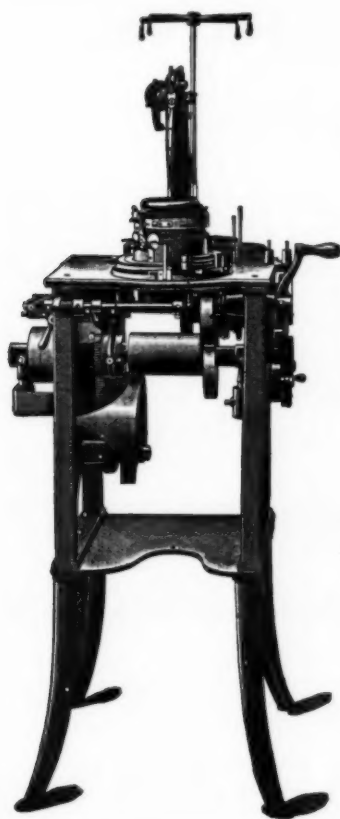
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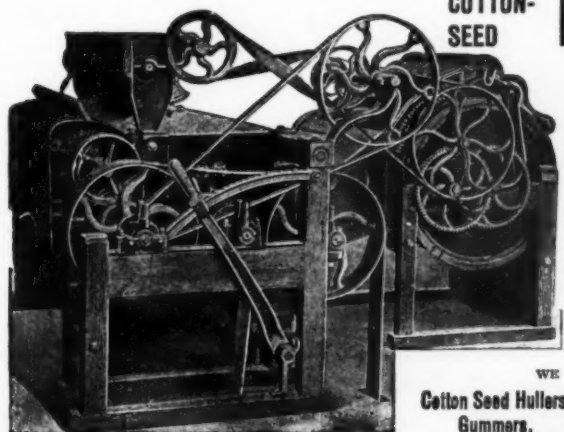
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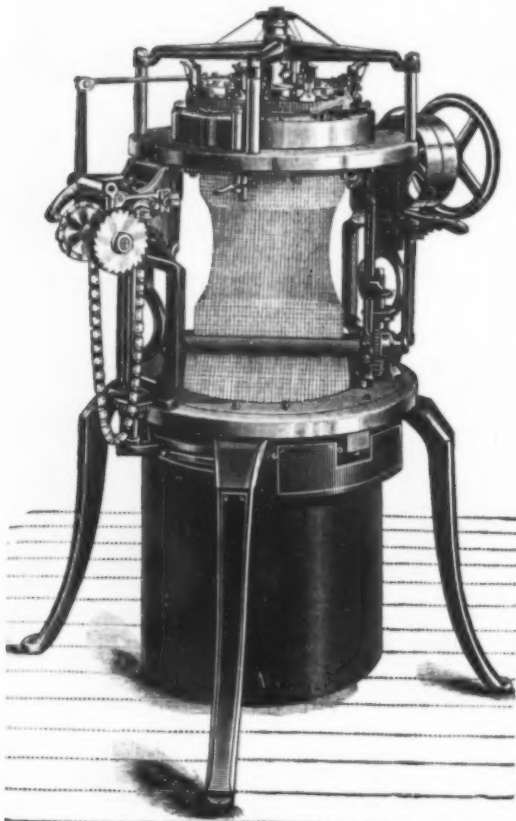
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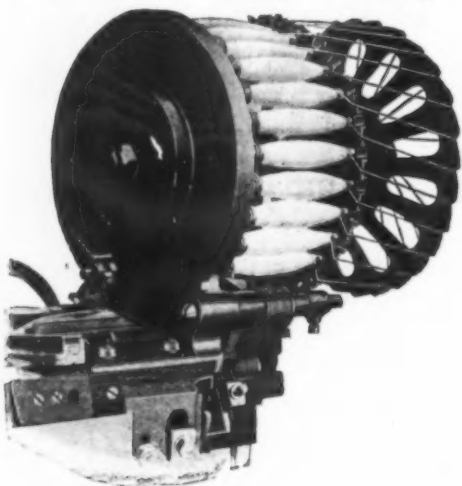
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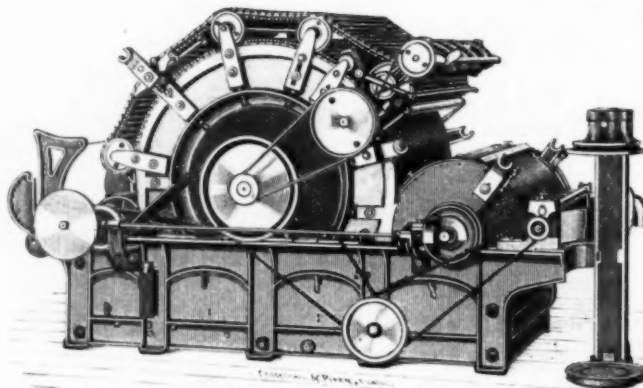
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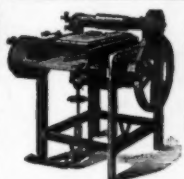
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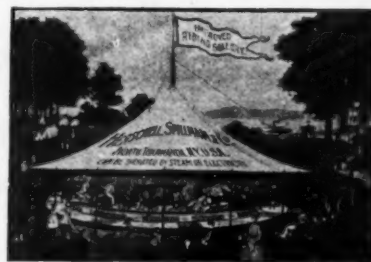
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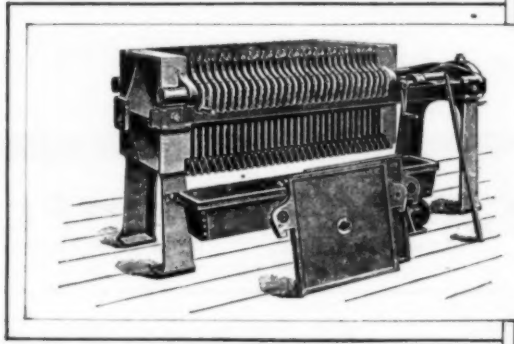
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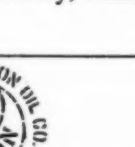
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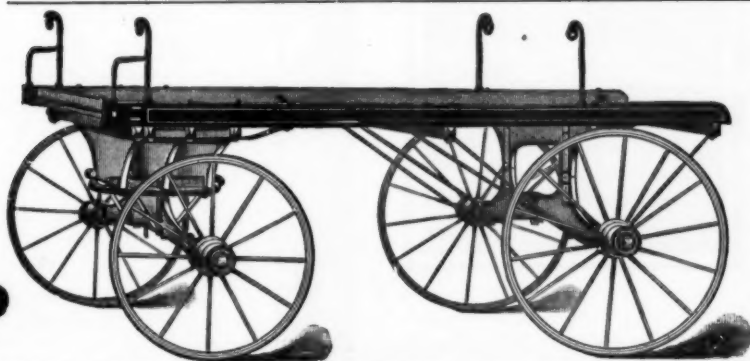
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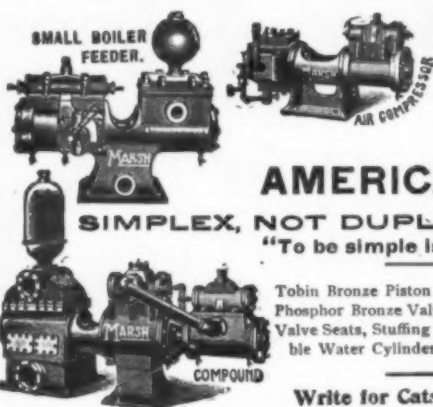
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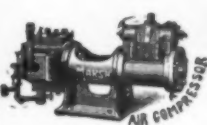
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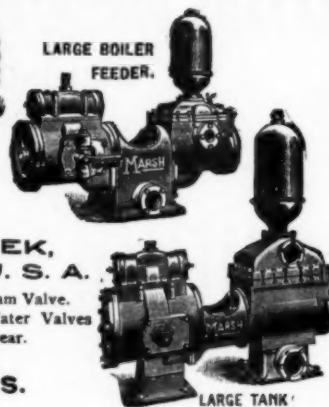
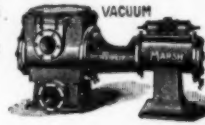


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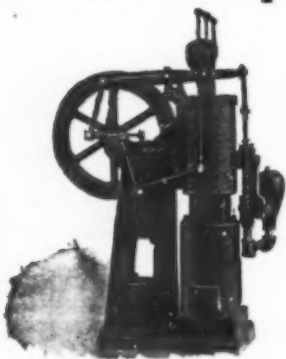
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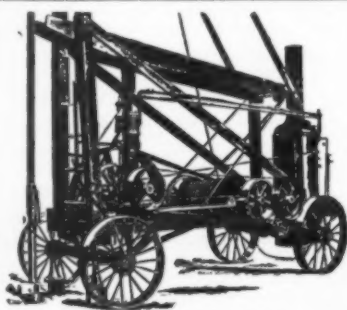
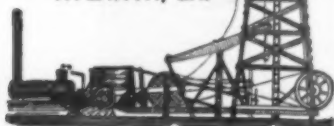
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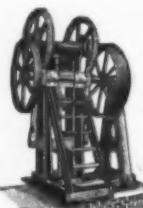
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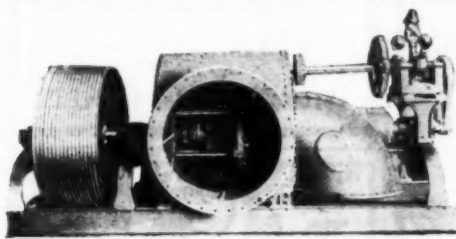
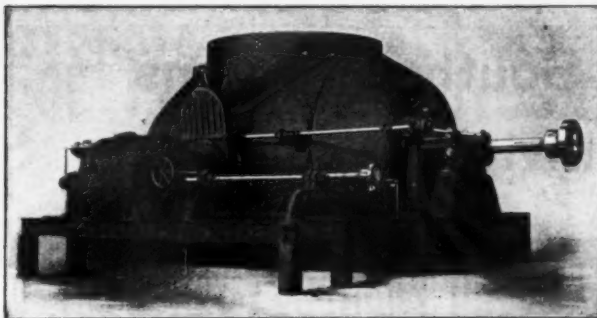
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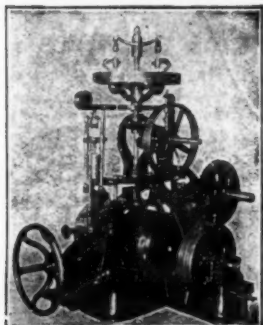
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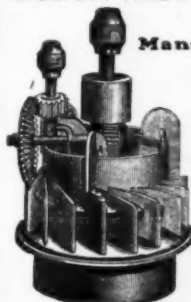
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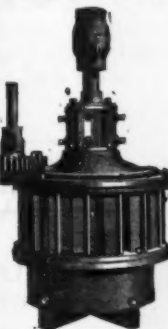
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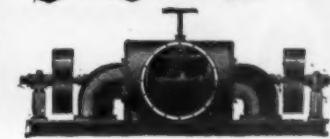
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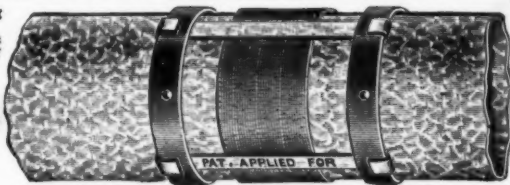
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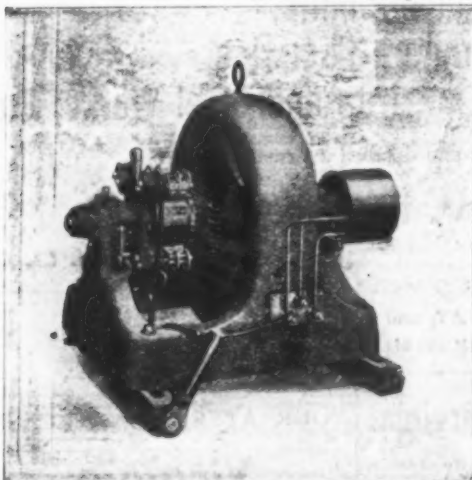
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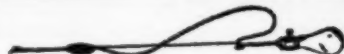
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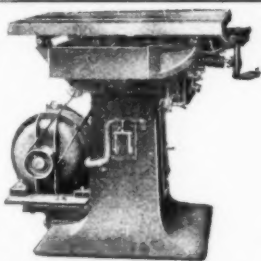
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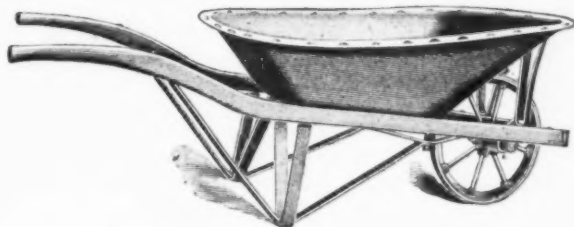
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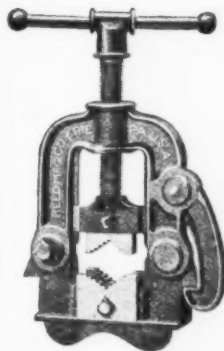
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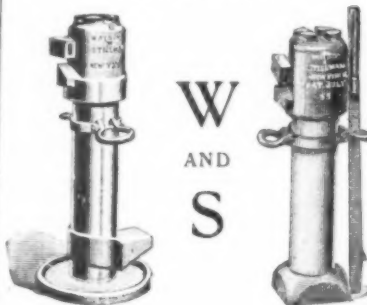
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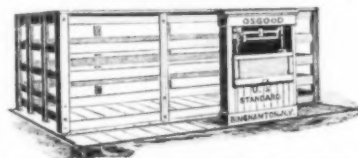
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